fnmoc_METCAST_UM_14Series_RevA

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

User's Manual (UM)
for the
METCAST Client Segment (METCAST)
Release 1.4 Series
Revision A

9 November 2000

Prepared for:
Space and Naval Warfare Systems Command
Environmental Systems Program Office
(SPAWAR PMW-185)

Prepared by:

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1 SCOPE

1.1 Identification

This is the User's Manual for the METCAST Client Segment of the METCAST data distribution software, Release 1.4 Series, developed by Fleet Numerical Meteorology and Oceanography Center (FNMOC), Monterey, CA. This software is designed to run under the Defense Information Infrastructure (DII) Common Operating Environment (COE), release 3.1 or higher. The software runs under the following hardware and operating systems:

- Personal Computer (PC) running the Microsoft Windows NT 4.0 operating system with Service Pack 3 or higher, Windows 2000, or Windows 98.
- Tactical Advanced Computer, TAC-3 (HP 750/755) or TAC-4 (HP J210) or higher running the HP-UX operating system, release 10.20 or higher.
- Sun SPARC computer running the Sun Solaris operating system, release 2.6 or higher.

This document has been developed in accordance with the *DII COE Developer Documentation Requirements, Version 2.0*.

1.2 System Overview

METCAST is a standards-based, request-reply and subscription (channel) system for distributing weather information over the Internet using Hyper-Text Transfer Protocol (HTTP) and Multipurpose Internet Mail Extensions (MIME). The METCAST Client Segment includes a graphical user interface (GUI) to allow the user to select the products to be retrieved and the frequency and types of retrievals, and a retriever process that establishes communication with a METCAST server, submits a request for the data requested, and delivers the reply to the local user. The METCAST Server comprises a separate segment.

1.3 What's New?

This section lists changes made to METCAST Client since the initial release.

Release 1.4.0.1 incorporates the following changes:

- The Total Weather program has now been split off into a separate installation package.
- Added support for proxy server authentication, for proxy servers that require the user to log in.
- Added error processing to the TAF and METAR reconstruct scripts to prevent the programs from crashing because of bad observations.

- Fixed a variety of minor program bugs.

Release 1.4.0.0 incorporated the following changes:

- Added the Total Weather program to METCAST Client. Total Weather is a lightweight client that enables you to download observations (METARs and TAFs) from selected stations in text form very quickly. Total Weather is discussed in detail in Appendix A.

- Removed the default "always on" setting for SIGMETs. SIGMETs may now be turned on or off like any other text product.

- Modified the installer so that it checks for the presence of configuration files left from previous installations. If older configuration files are found, they are not modified by the installer; this keeps the installer from overwriting any previous user settings.

- Modifications to the retriever service to change the way it performs a request. Now METCAST does not perform a full download every time a session is restarted. This includes pressing the start button, rescheduling the area, and even shutting down METCAST. With this modification, a full download will only occur the first time the area is created or if the user explicitly sets up the request to be done "on demand". The retriever service is able to "remember" the last download by writing the timestamp of the last download to the area directory. Each session gets a unique filename with the timestamp of the last download.

- When an area is scheduled, the status button is now enabled and the delete button is now disabled.

- Modified the Bulletin List product selection screen to show a description of the selected bulletin.

- Changed the mailcap file to route additional data types to MIDDS, if it is present.

- Fixed the merge script for upper air reports to correctly assemble a complete report from its component parts.

- Fixed a problem in the data processor executable that caused files to be deleted under certain circumstances, and a variety of other bugs encountered during testing.

Release 1.3.0.0 introduced a new scheme for processing downloaded grid data which makes data available to the user earlier and makes better use of machine resources. Grids are now sent to the processor individually as they are downloaded, rather than downloading all grids for a session and sending them to the processor in a block. Sleep time is now built in between grids so that other processes can grab some CPU time even while grids are processing. Release 1.3.0.0 also incorporates some bug fixes and makes better use of the machine's memory.

Release 1.2.0.4 fixes a few bugs in the preceding version and also introduces processing for bathythermograph reports and for fully decoded METAR and SPECI reports. It also incorporates a modification to the TextDisplay.exe program to sort the bulletin headers before they are displayed to the user in the dialog box.

Release 1.2.0.3 introduces further improvements to ODD-N, the major ones being wildcarding of bulletin names and the capability to accept bulletin names that are not on the predefined list. This release also fixes the processing scripts to allow them to continue processing downloads even after a bad report is encountered.

Release 1.2.0.2 introduced various improvements related to ODD-N, including sorting and elimination of duplicates in the lists.

Release 1.2 introduced the capability to request, download, and review plain text and WMO-coded bulletins in textual format. The bulletins may also be used to feed a MIDDS system on the network. There is also a new capability to specify a list of stations by ICAO code, download various types of observations for each station, and view those observations in textual form. Together, these two new capabilities comprise the ODD-N system, which allows METCAST Client to serve as a backup for the Automated Weather Network (AWN) distribution system.

Release 1.1 of METCAST Client introduced two important new features:

- **Dynamic Product List.** METCAST Client now uses a special channel to download a list of all products present on the server. This is done each time METCAST Client is started, and periodically thereafter. When a user selects products to download using the Dynamic Product List, only the products which are actually available from the server are made available for selection. It is possible to subscribe to multiple servers and receive the product list for each.

- **Interactive Retriever**. The retriever process (the process that relays product requests to the server and returns the products to the client) is now an interactive program with a graphical user interface that lets the user monitor each retrieval in detail. It also gives the user the capability to stop individual retrievals without affecting other retrievals that are being carried out simultaneously.

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2 REFERENCED DOCUMENTS

2.1 Government Documents

DDR-2 23 January 1998	*Defense Information Infrastructure (DII) Common Operating Environment (COE) Developer Documentation Requirements, Version 2.0,* Defense Information Systems Agency, Joint Operability and Engineering Organization
Unnumbered 18 June 1998	*Software Requirements Specification for METCAST,* Space and Naval Warfare Systems Command, Environmental Systems Program Office (SPAWAR PMW-185), San Diego, CA
fnmoc_METCAST_SVD_1401 9 November 2000	*Software Version Description (SVD) for the METCAST Client Segment, release 1.4.0.1*
fnmoc_METCAST_IP_14Series 8 September 2000	*Installation Procedures (IP) for the METCAST Client Segment, release 1.4 Series*

2.2 Non-Government Documents

<u>World Meteorological Organization (WMO), Geneva, Switzerland</u>

WMO 306 1995	*Manual on Codes*
WMO 386 1992	*Manual on the Global Telecommunications System*

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3 SOFTWARE SUMMARY

3.1 Software Description

METCAST allows a user to define areas of interest, data requirements for each area, and frequency with which data are required for each area, and "subscribe" to the required data. The user may also define lists of bulletins of interest or lists of stations of interest, and subscribe to the data in the lists. Once a subscription is updated, the specified server will automatically update the data at whatever interval the user has specified. In simpler terms, the user sends the server a "wish list" of data requirements, and the server retrieves the data from its local database and sends it to the client as often as the user wishes.

The METCAST Client segment provides a graphical user interface (GUI) for area definition, data selection, and scheduling, and a "retriever" mechanism which, at the specified interval, sends a request to the server and delivers the response to the user. The retriever has its own GUI to provide the user with constantly updated status for each retrieval. METCAST Client also provides a viewer for text-based products (bulletin and station lists).

3.2 Software Inventory

A complete inventory of the METCAST Client software is contained in the *METCAST Client Software Version Description* listed in Section 2.1.

3.3 Software Environment

A complete description of the software environment, and a list of manuals provided with the METCAST Client software, are contained in the *METCAST Client Software Version Description* listed in Section 2.1.

3.4 Software Organization and Operation Overview

The METCAST Client software has two main units:

1. A GUI that allows the operator to select areas, define a data list for each area, and schedule retrievals for each area. The operator may also define lists of data which are not geographically bounded. These may be lists of plain text bulletins or lists of individual stations for which certain data are to be retrieved. The GUI also provides facilities to specify the data server for each data type, manage areas (Add, Delete, Rename, Duplicate), and view the status of requests.

2. A retriever function that transports a request to the server, waits for a reply, and delivers the requested data to the client. The operation of the retriever is essentially transparent to the user; it is initiated according to the schedule established in the GUI, and delivers the data in the background. A retriever monitor is provided to allow the user to view the status of retrievals and to interact with individual retrieval sessions.

3.5 Modes of Operation

There are two modes of operation for METCAST Client: Interactive Mode and Unattended Mode. In Interactive Mode, the METCAST Client GUI is displayed (or minimized) and user interaction with the program is available. In Unattended Mode, the Retriever is running as a Windows NT Service, and the GUI is not active. Unattended Mode permits retrievals to continue even when no users are logged on to the system.

3.6 Security and Privacy

There are no security and privacy considerations peculiar to METCAST Client.

3.7 Assistance and Problem Reporting

The point of contact for assistance and problem reporting is:

Mr. Dave Huff
Fleet Numerical Meteorology and Oceanography Center
7 Grace Hopper Avenue
Monterey, CA 93943

Phone: (831) 656-4569

E-mail: huff.david@metnet.navy.mil

4 ACCESS TO THE SOFTWARE

4.1 Software Setup

Procedures for installing the METCAST Client software are contained in the *METCAST Client Segment Installation Procedures* (IP) listed in Section 2.1.

When you first start METCAST Client after performing a new installation, a dialog will pop up asking you to enter a user name and password for the server:

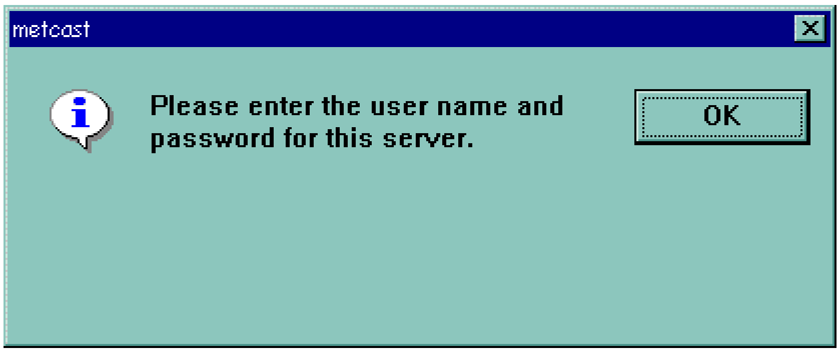


Figure 1. User Name and Password Dialog

Click on the **OK** button and the Server Configuration dialog will open:

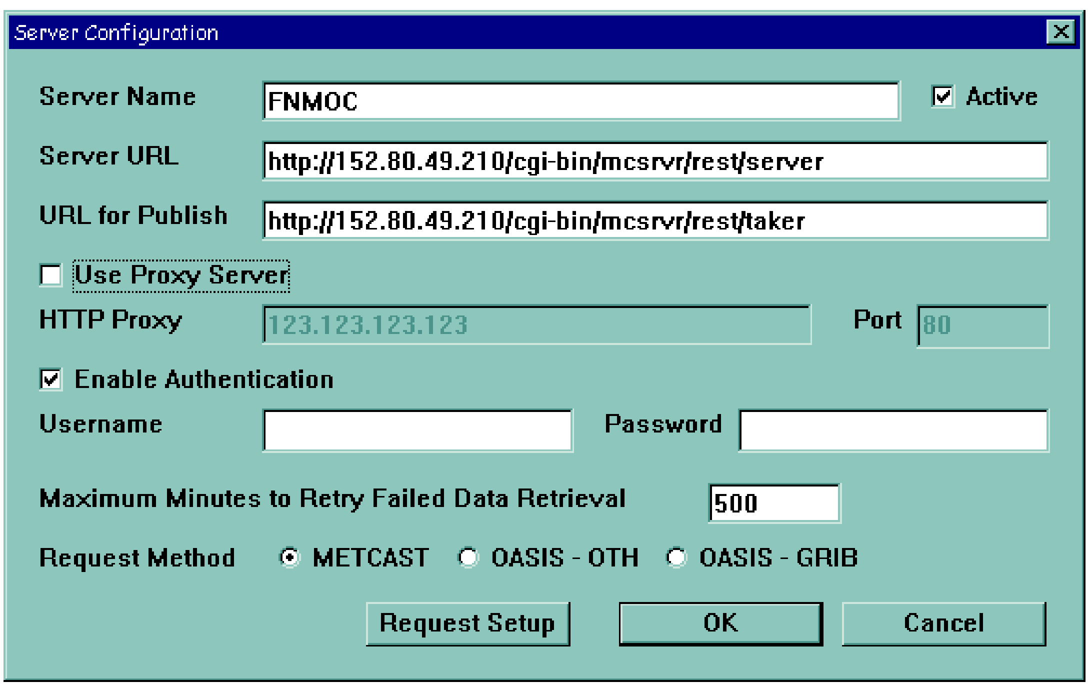


Figure 2. Initial Server Configuration Dialog

To set up to use the FNMOC server, which is the default, you'll need to enter a **Username** and **Password** in the appropriate boxes. If the machine on which you installed METCAST Client is behind a firewall, you'll probably need to check the **Use Proxy Server** checkbox and enter **the IP Address** of the proxy server and the **Port** number of the proxy port in the appropriate boxes. Your System Administrator should be able to tell you the correct values to enter in these boxes.

To use a different server, enter the **Server Name**, **Server URL**, and **URL for Publish** in the appropriate boxes (again, consult with the System Administrator). The remaining entries are as shown above.

When finished with the entries, ensure that the **Active** checkbox is checked and then click on the **OK** button. This will close the Server Configuration dialog and start the download of the Dynamic Product List for that server.

4.1.1 Familiarization

This section provides guidance for new users concerning basic elements of the METCAST Client screen and use of the menus and the mouse for navigation within METCAST Client.

4.1.1.1 The METCAST Requestor Screen

The figure at the top of the next page shows the main elements of the METCAST Requestor screen, which is the main control panel for defining and scheduling METCAST requests. The important parts to recognize are:

Title Bar The Title Bar contains the name of the window or of the application that created the window. The title bar has another function as well – it can be dragged to move the whole window. To do this, just position the cursor in the title bar, press and hold the left mouse button, and move the mouse to move the window. When finished, release the mouse button.

Minimize Button This button is used to *minimize* the window; that is, to shrink the window to an icon on the screen. This is a convenient way to make more space on screen if you have multiple windows open. To restore a minimized window, just double-click on its icon.

Maximize Button The Maximize Button is used to make the window fill the whole screen. When a window is maximized, it can no longer be resized by pulling on the frame, and the Maximize Button changes to a Restore Button (see below).

Restore Button When a window has been maximized, its Maximize Button becomes a Restore Button, which allows you to return the window to its former size (before it was maximized). After you have restored the window, you can again resize it by dragging the frame.

Close Button The Close Button closes the window.

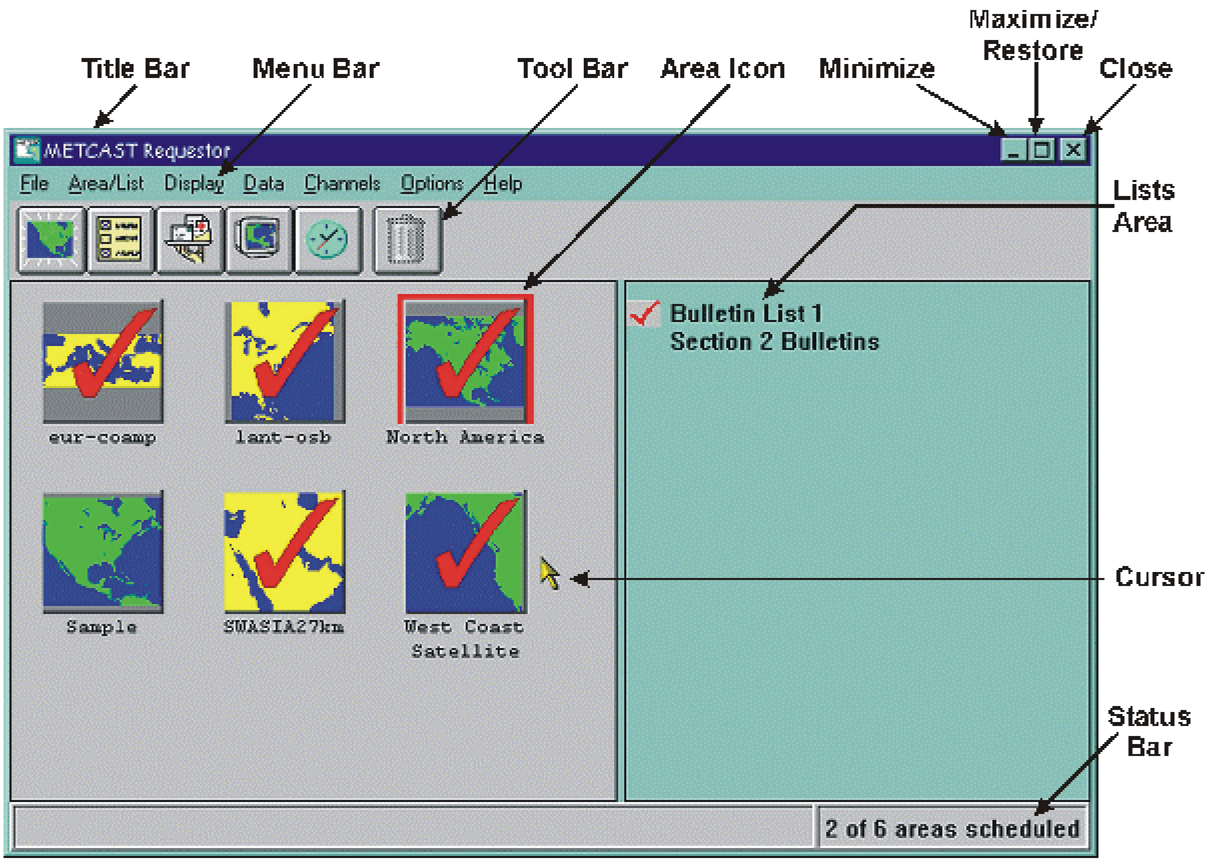


Figure 3. Features of the METCAST Requestor Screen

Menu Bar

The Menu Bar contains the menus that apply to the window or the application that created it. Some of the items in the menu bar may be "grayed out" – this means that they are not active. The active items are shown in black. Inactive items may become active based on selections you make in other menus or elsewhere in the menu.

By clicking on an active item in the menu bar (or by holding the Alt key and pressing the letter key of the letter underlined in the menu title) you "pull down" a menu. You can then use the mouse to select an item in the menu (the selected item will be highlighted) and click the left mouse button to select it. In some cases, this will perform an action immediately. In other cases, it will open another menu, or open a dialog box, which is another window that lets you respond to questions or enter inputs. One particularly important item on the menu bar is the **Help** menu, which provides you with help specifically related to the current window.

Tool Bar

The Tool Bar contains a set of buttons that give you a quick way to perform common tasks like creating an area, selecting products, configuring the area's schedule, scheduling an area, and deleting an area.

Area Icons An icon appears in the main part of the window for each area that you have defined. The icon is a small representation of the map of the area. An icon may be selected by clicking on it; a selected icon will appear with a red border. When retrieval of data for an area has been scheduled, its icon will have a large red check mark on it (as shown for the NORTHLANT area in the figure).

Lists Area This area displays, by list name, the lists that are currently defined. A red check mark will appear to the left of each list that is scheduled. A list may specify a set of bulletins to be downloaded, or it may specify a set of stations for which certain data are to be downloaded.

Cursor The cursor is a pointer that you can move around the screen using the mouse (see Mouse Basics, Section 4.1.1.2). The cursor represents the point on the screen at which an action will be directed For example, if you put the cursor over a button on the screen and click the mouse button, the program will know that you just clicked on that on-screen button. The appearance of the cursor is usually an arrow, as shown in the figure, but it may change depending on the current function of the cursor.

Status Bar The Status Bar is used to pass along informative messages that show you what the program is doing or what it is acting on. In the example, the status bar shows that there are three areas defined and that one of the three is scheduled for retrieval.

4.1.1.2 Navigation Basics

The figure below shows a standard 2-button mouse, which provides the easiest way to navigate through most of the METCAST Client screens.

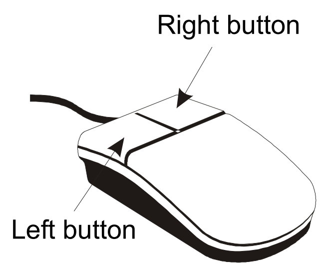


Figure 4. Two-button Mouse

The mouse has a ball on its underside that's hooked to sensors. As you push the mouse about on the mouse pad, the ball rolls and moves the sensors, which then tell the computer to move the cursor on the screen. The buttons on the mouse are used to select items from menus, or to cause some action when an active area of the screen is pointed to by the cursor. There are several different actions you can perform using the mouse buttons:

Click You click by pressing the left mouse button once and then quickly releasing it.

Double-Click This means clicking twice in rapid succession.

Right-Click Same as a click, but using the right mouse button.

Drag and Drop To "drag" an object, you put the cursor over it, press and hold the left mouse button, and move the mouse to move the object to a new location. You "drop" the object on its new location by releasing the mouse button.

Nearly all of the actions you perform using the mouse in METCAST Client can also be performed using the keyboard. For example, to pull down a menu, you hold down the ALT key and type the letter underlined in the menu title. You can then use the arrow keys to navigate within the menu, and press the Enter key to make a selection.

4.1.1.3 Windows Controls

Radio Buttons are round buttons that come in sets. They are called radio buttons because, like the station selector buttons on your car radio, only one button of the set can be "pressed" at any time. When you press one of the unselected buttons, the button that was selected gets turned off, and the button you just clicked gets selected. A selected button has a dot in the middle. The picture below shows a set of two radio buttons, with the "Show All" button selected.

Figure 5. Radio Buttons

Check Boxes are selectors for individual items. They often come in sets, but unlike radio buttons, more than one box in the set may be selected at a time. A selected check box displays a "✓" or an "X", while an unselected check box is blank. The picture below shows a set of check boxes.

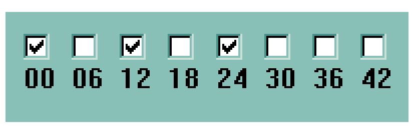


Figure 6. Check Boxes

Dialog Boxes are windows with controls that allow you to interact with the program by making selections, typing in information, using check boxes and radio buttons, or clicking on buttons. A typical dialog box is shown in Figure 7. This is the dialog box used for configuring a server, and it contains type-in boxes, check boxes, radio buttons, and buttons to help you do this.

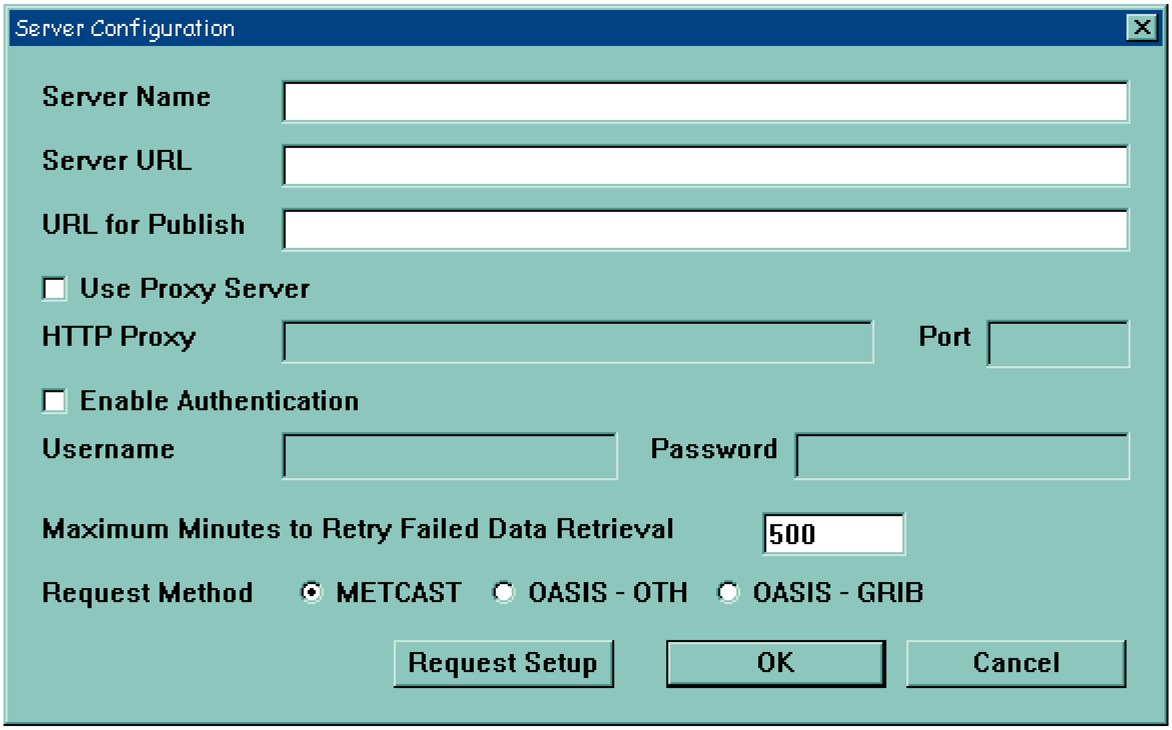
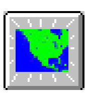


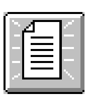
Figure 7. Typical Dialog Box

4.1.1.4 The METCAST Requestor Tool Bar

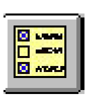
The toolbar buttons have the following functions:



The **Create a New Area** button is used to create a new area of interest for data retrieval. It pops up a dialog that lets you select the area type, then a map that lets you draw and refine the area definition.

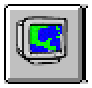


The **Create a New List** button is used to create a new bulletin or station list for data retrieval. It pops up a dialog that lets you select the type of list to be created, then another dialog to select the items to be included in the list.

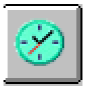


The **Assign Products** button lets you select the products to be retrieved for the selected area or list (this button is "grayed out" when no area icon or list name is selected). It pops up the Choose Products dialog (for an area) or the appropriate Edit List dialog (for a list) to allow you to select products to be retrieved.

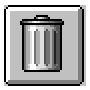
The **Schedule/Unschedule** button toggles the activity state for the selected area or list (this button is "grayed out" when no area icon or list name is selected). When an area is scheduled (that is, when the retriever is set to get data for the area as scheduled), the area icon displays a red check mark. When a list is scheduled, a red check mark appears to the left of the list name. This means that the area or list is active and data retrievals will proceed as scheduled. An unchecked area or list is idle and no data retrievals are taking place for that area or list.



The **Display Products** button opens the map display program for the selected area (or the text display program for the selected list) (this button is "grayed out" when no area icon or list name is selected).



The **Configure Area** button opens the configuration dialog for the selected area or list (this button is "grayed out" when no area icon or list name is selected). This dialog lets you set the schedule for retrieval of various data types.



The **Delete Area** button deletes the selected area or list from the workspace and deletes any data retrieved for the area or list from the local disk. Clicking the button opens a confirmation dialog to confirm the action before the area or list is actually deleted. This button is "grayed out" when no area icon or list name is selected.

More details on each of these actions may be found in Section 5.

4.1.2 Access Control

There is no access control specific to METCAST Client; the System Administrator controls access to the software on the host machine through granting of user accounts and privileges.

4.1.3 Installation and Configuration

The *METCAST Client Installation Procedures (IP)* referenced in Section 2 provide complete instructions for installation of the METCAST Client software.

4.2 Initiating a Session

To start METCAST Client, double-click on the desktop icon or open the ***C:\jmvwin*** directory in Windows Explorer and double-click on the **metcast** icon.

4.3 Stopping and Suspending Work

You can stop METCAST Client by selecting **Quit** from the **File** menu, or by clicking the Close button  at the upper right corner of the METCAST Client window.

4.4 Running the Retriever Service as a Windows NT Service (Windows NT Platform only)

METCAST Client versions1.1.0.3e and greater have a feature that allows you to run the Retriever Service as a native Windows NT service. Below are the advantages and disadvantages of running the Retriever Service as an NT service.

Advantages of being an NT Service:

- Running the Retriever Service as an NT service allows your computer to make METCAST requests while nobody is logged on to it. You can set up your requests using the GUI and then exit the GUI or even log off the machine, and the retrievals will still continue.

Disadvantages of being an NT Service:

- Additional install/uninstall steps

- The System Tray icon for the Retriever Service is not available meaning that you must run the Retriever Monitor via the `RetrieverMonitor.exe` program rather than double-clicking the system Tray cloud icon.

4.4.1 Installing the Retriever Service as an NT Service

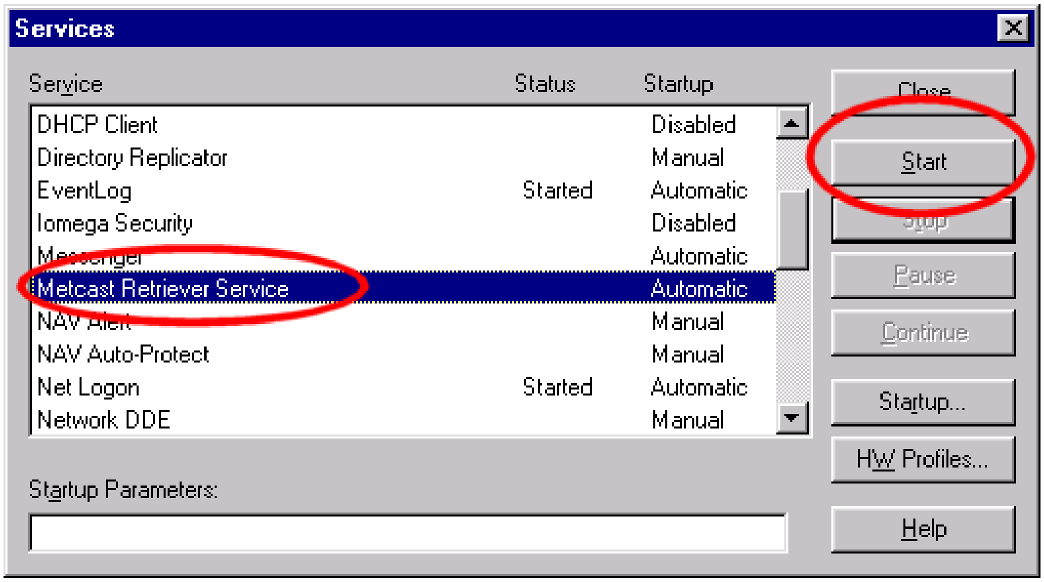
The following steps are required for installation of the Retriever Service as an NT Service:

1. Install METCAST Client version 1.1.0.3e or higher.

2. Make sure that no METCAST Clients are running on your system. If there are any, exit them now. If a Retriever Service cloud icon is in your System Tray, right click on it and choose **Stop Retriever Service** from the popup menu.

3. Go to your `jmvwin\noddsfls` directory and run the `ServiceInstall.exe` program. The following window will appear:

4. Click **OK** and wait for about three seconds for your Control-Panel Services window to pop up. It will look something like the following:



Find and highlight the newly created **Metcast Retriever Service** entry and then click on the **Start** button. This will start the Retriever Service as a background application. After the service has started, you may close the Services window. From now on, The Retriever Service will automatically start during bootup of your machine, so you should not need to do this step again.

5. Launch METCAST Client. You will see that the System Tray icon for the Retriever Service does not appear as it normally does. In order to monitor your METCAST retrievals, you will need to instead go to your noddsfls directory and run the program named `RetrieverMonitor.exe`.

6. Go to the Metcast Client Options menu and check the **Keep Services Active** menu item.

Note:

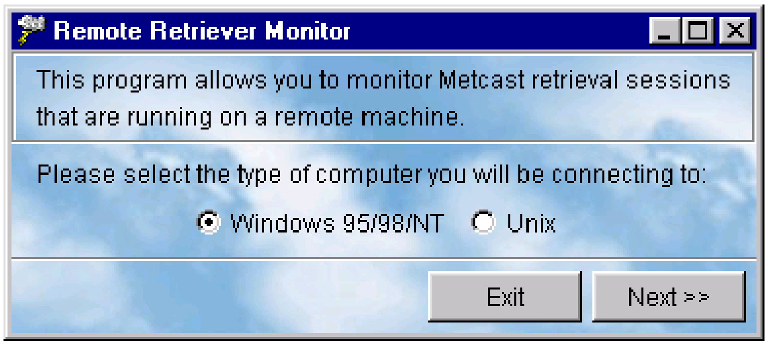
Now that you have installed the Retriever Service as an NT service it is important to know that you must remove it as an NT service before uninstalling METCAST Client. The procedure for removing the Retriever Service as an NT service is described in Section 4.4.3.

4.4.2 Monitoring a Retriever Service From a Remote Computer

METCAST Client Versions 1.0.0.3e and later come bundled with a special purpose Retriever Monitor that is called the Remote Retriever Monitor. The Remote Retriever Monitor enables you to monitor METCAST Retrievals that are occurring on a remote system. This means that you can monitor retrievals for JMV's remote areas, or monitor retrievals occurring on remote machines where the Retriever Service is running as a Windows NT service (see above). Without logging on to the system, the Metcast retrieval activity can still be viewed remotely.

To run the Remote Retriever Monitor, do the following:

1. Go to your `jmvwin\noddsfls` directory and run the program `RemoteRetrieverMonitor.exe`. The following window will be shown:



2. Select Windows 95/98/NT and then click the Next button. You will see the following screen:

3. Type in the IP address for the computer of which you wish to monitor retrieval sessions and then click the Next button. A Retriever Monitor will now be displayed that shows METCAST retrieval activity on the remote computer.

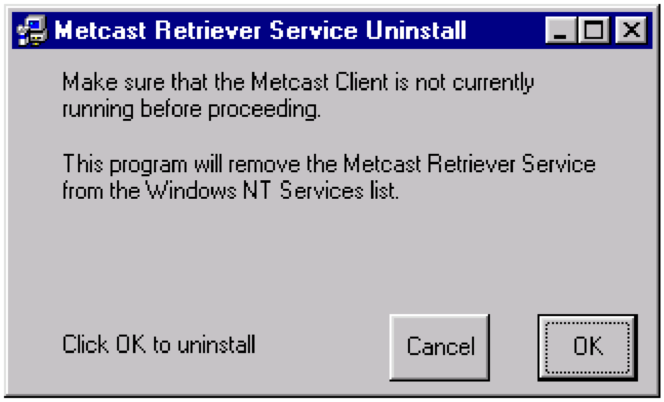
4.4.3 Uninstalling the Retriever Service as an NT Service

To quit running the Retriever Service as an NT Service, simply do the following steps:

1. Exit any Metcast Clients that may be running.

2. Go to the `jmvwin\noddsfls` directory from which you ran `ServiceInstall.exe` when you installed the Retriever Service as an NT service.

3. Run the program `ServiceUninstall.exe`. The following window will pop up.



4. Click the **OK** button to remove the Retriever Service as an NT Service.

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5 USING METCAST CLIENT

This section shows you how to use METCAST Client's Requestor to set up and schedule data retrievals and view the data you have retrieved. We begin by discussing the basic steps required, and then proceed to a detailed discussion of each step.

5.1 The Basics

To use METCAST Client to retrieve and view data, follow this set of steps:

1. Set the Time Zone and Data Server Options. Use the **Options** menu to set your time zone and to tell METCAST Client what data servers to use. When you click on the **Time Zone...** item, you can set the time zone in which you are located. Under the **Servers...** item, you can manage a list of servers. You can select a server from a list, edit a server's Universal Resource Locator (URL) or other parameters, add a new server, remove a server from the list, or change the order of servers in the list. METCAST Client is shipped with a configuration file that points it to the METCAST server at FNMOC. If there are local servers, data retrieval may be faster – ask your System Administrator where the best servers are for your installation. The **Request Setup** button on the Server Configuration screen opens a separate dialog that lets you specify the schedule for retrieving each data type. Section 5.2 discusses server setup in more detail.

2. Select or create an area of interest, bulletin list, or station list. If the area you're interested in already is shown as an icon on the METCAST screen, just click on its icon to select it. A red border will appear around the icon. If you need data for an area that's not on the screen, click on the **Create Area** button in the toolbar (or pull down the **Area/List** menu and select **Define Area...**) and use the dialogs that appear to define a new area. If you want to retrieve data for an existing bulletin list or station list, click on the list name in the List Area to highlight it. To create a new list, pull down the **Area/List** menu and select **Create New List**. Section 5.3 discusses area definition in more detail while Section 5.6 discusses list definition.

3. Choose the products to retrieve. Once an area or list is defined and selected, you can choose the set of products to be retrieved for that area or list (each area or list has its own product list). With the desired area or list selected, click on the **Assign Products** button in the toolbar (or pull down the **Area/List** menu and select **Select Products...**). If you're working with an area, this will open the Choose Products dialog that lets you select the products to be retrieved for the selected area. Section 5.4 discusses this process in more detail. For a list, the appropriate Edit List dialog for the list type will be opened. Section 5.6 discusses list product selection in more detail. The product selection process only needs to be done once for each area or list, unless there are changes to the desired products.

4. Configure the Retrieval. This section is optional. The retrieval schedules are configured by server (see Item 1, above). You can, however, set options for time last updated and images to retain by area. To do this, right-click on the area icon and select **Setup Requests** from the pop-up menu, or highlight the area and click on **Area/List** in the Menu Bar, and select **Setup**

Requests. This will open a dialog that lets you specify the number of images to retain and the maximum time since the data to be downloaded were updated. These settings apply only to the selected area. Section 5.5 discusses configuration options in more detail.

5. Schedule the Area or List. To schedule the retrieval, make sure that the desired area or list is highlighted and click the **Schedule/Unschedule** button in the toolbar or pull down the **Area/List** menu and select **Schedule**. Scheduling the area or list starts the retrieval process according to the schedule set up for each data type. If a particular data type is set for "on demand" scheduling, the retriever for that type of data is started immediately when the area is scheduled, runs once, and shuts down. If periodic retrievals are scheduled, a retriever is started when the area or list is scheduled, and another is started when the specified number of minutes have elapsed since the first retriever finished its run, and so on. If retrievals at specific times were specified, a retriever is started at each specified time. An area that is scheduled displays a red check over its icon as long as it is active. A list that is scheduled shows a red check mark to the left of the list name. Section 5.6 discusses this process in more detail.

6. If desired, monitor the retrieval. You can monitor the retrieval status in two ways:

    a. You can use the Retriever Monitor to view the status of the retriever transactions, and also to start and stop individual retrieval sessions. Section 5.8 discusses the retriever monitor in more detail.

    b. You can use the **Status** item under the **Area/List** menu to keep track of the progress of the retrieval. This opens a list that shows the data that have been retrieved for the area, with new items shown in red and older items in blue. This display is continuously updated. Section 5.8 discusses the status display in more detail.

7. After the retrieval is complete, view the results**.** Highlighting an area icon, clicking the **Display Products** button in the toolbar, pulling down the **Display** menu and selecting **Map Display**, or double-clicking on the area icon will open the map display program. This program is discussed in more detail in the *Joint METOC Viewer User's Manual*, cited in Section 2. In this manual, we will simply say that any of the actions described above will result in the opening of a dialog that lets you choose the items to display from a list of those that have been retrieved. When this dialog is closed, the map display opens to show the selected products.

    If you have retrieved upper air data, you may also view the soundings retrieved as a Skew-T, Log P display by pulling down the **Display** menu and selecting **SkewT**. You will be presented with a dialog that allows you to select the sounding(s) to display, and then the Skew-T display will be opened. More details on the Skew-T display are contained in the *Joint METOC Viewer User's Manual* cited in Section 2.

    You may view a list by double-clicking on its name in the Lists Area, or by right-clicking on the list name and selecting **Display** from the pop-up menu, or by clicking on the list name to highlight it and then clicking the **Display** button on the toolbar. What you see next depends on the type of list that is selected for display:

- **Bulletin List:** When you select a bulletin list for display, you will first see a dialog listing all of the bulletins received for the list and offering options, as shown in the figure below.

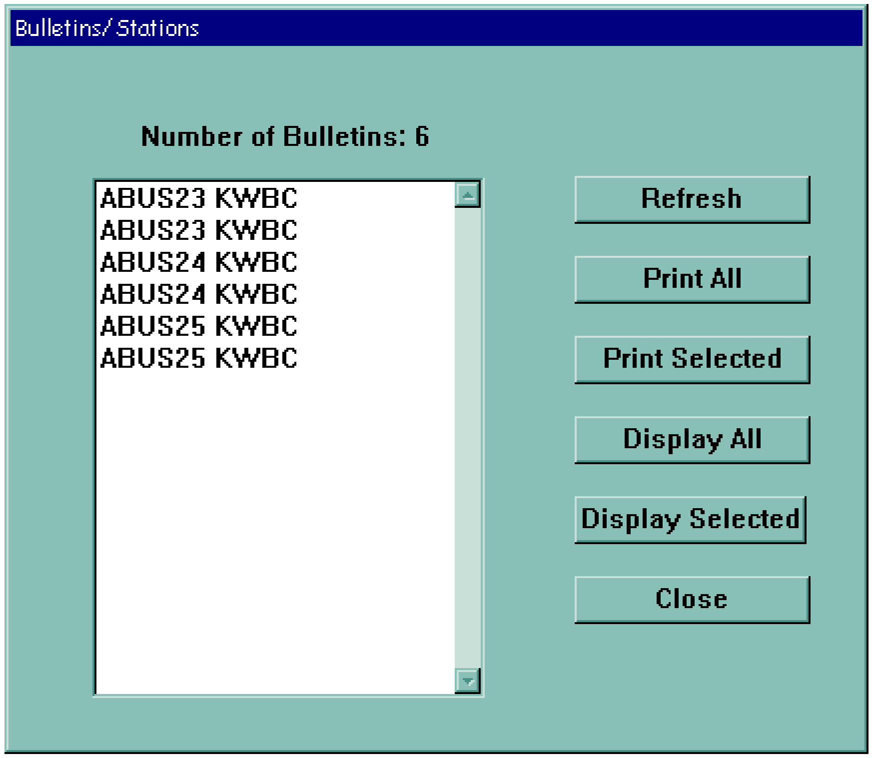


Figure 8. Bulletin List Options Dialog

You can display an individual bulletin by double-clicking its name or by clicking on it to highlight it and selecting **Display Selected**. You can select a continuous range of bulletins for display by clicking on the first bulletin in the range, pressing and holding the **Shift** key, and then clicking on the last bulletin in the range. To select multiple bulletins without selecting those between, click on the first bulletin, then press and hold the **Ctrl** key and click on the other bulletins to select them. The **Display Selected** button will then display all of the bulletins that are highlighted in the list. The **Refresh** button refreshes the list with the latest bulletins received. The **Print All** button sends all bulletins in the list to the default printer. The **Print Selected** button prints only the highlighted bulletins. The **Display All** button sends all bulletins in the list to the text display. The **Close** button closes the bulletin selection window.

The text display for bulletins is shown in the figure below. To search for a particular station or report, you can use the **Find** option under the **Edit** menu. You can print directly from the text display, and you can also copy sections of text and which can then be pasted into other applications. To copy text, highlight it and then press the **Ctrl** key and the **C** key together. The text is then placed on the Windows clipboard, from which you can paste it into other applications by placing the cursor where you want the text to appear and pressing the **Ctrl** key and the **V** key together. To close the text display, use the Close icon in the upper right corner or select **File** in the Menu Bar and **Close** from the pull-down menu.

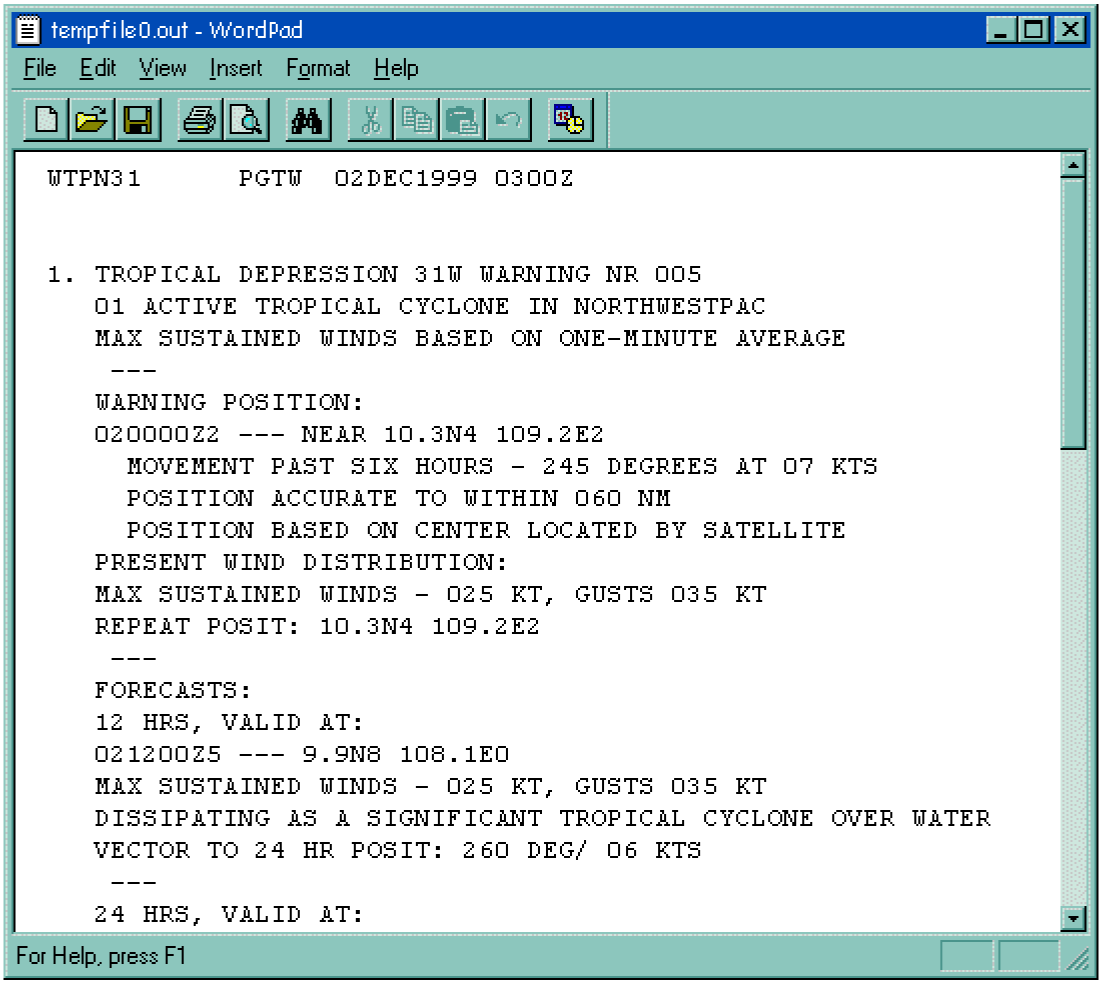


Figure 9. Text Display of Bulletin

- **Station List:** When a Station List is selected for display, the entire list is loaded into the Text Display window. At present, the reports are displayed by type: METARs and SPECIs, then TAFs, then Upper Air Reports, then Surface Synoptic Reports. In future releases, the reports will be displayed by station, with all reports for one station displayed, then all reports for the next station, and so forth. The Text Display window is the same as that for bulletins.

5.2 Server Setup (the Options Menu)

The **Options** menu contains two items. The **Time Zone** option opens a dialog that allows you to set your time zone (in hours relative to UCT or Zulu time). This dialog is shown below.

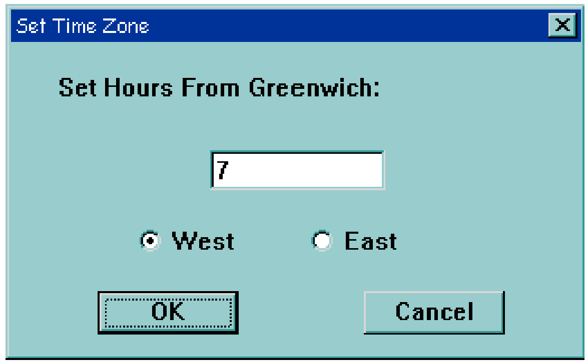


Figure 10. Time Zone Dialog

Just type in the number of hours (maximum 12) your time zone is away from UCT (Greenwich Mean Time), and click the appropriate direction button. Click the **OK** button when the correct values are shown.

The other item under the **Options** menu is **Servers...**. This opens the Network Servers dialog shown in Figure 11, which allows you to manage the servers.

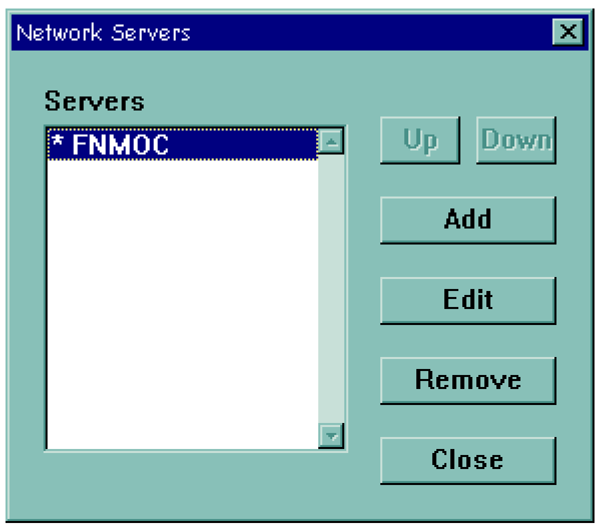


Figure 11. Network Servers Dialog

You can use the **Add** button to add a new server. This opens a Server Configuration dialog like the one shown in Figure 12. The same dialog is opened, filled in with the current server's configuration information, when you highlight a server in the list and click the **Edit** button (or when you double-click a server name in the list). Figure 13 shows a filled-in Server Configuration dialog.

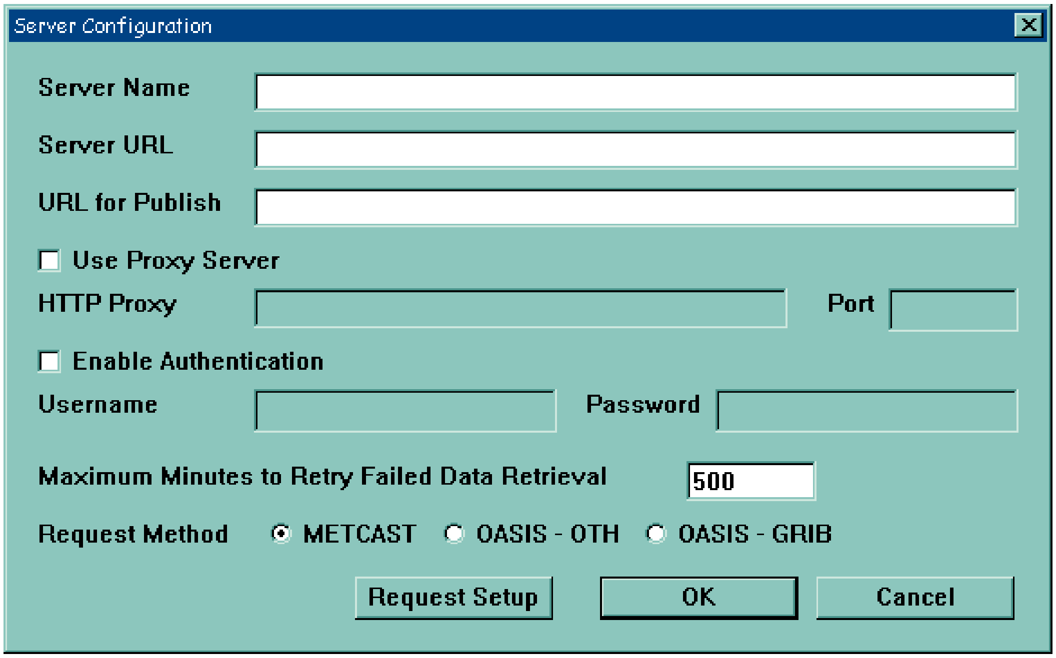


Figure 12. Source Configuration Dialog

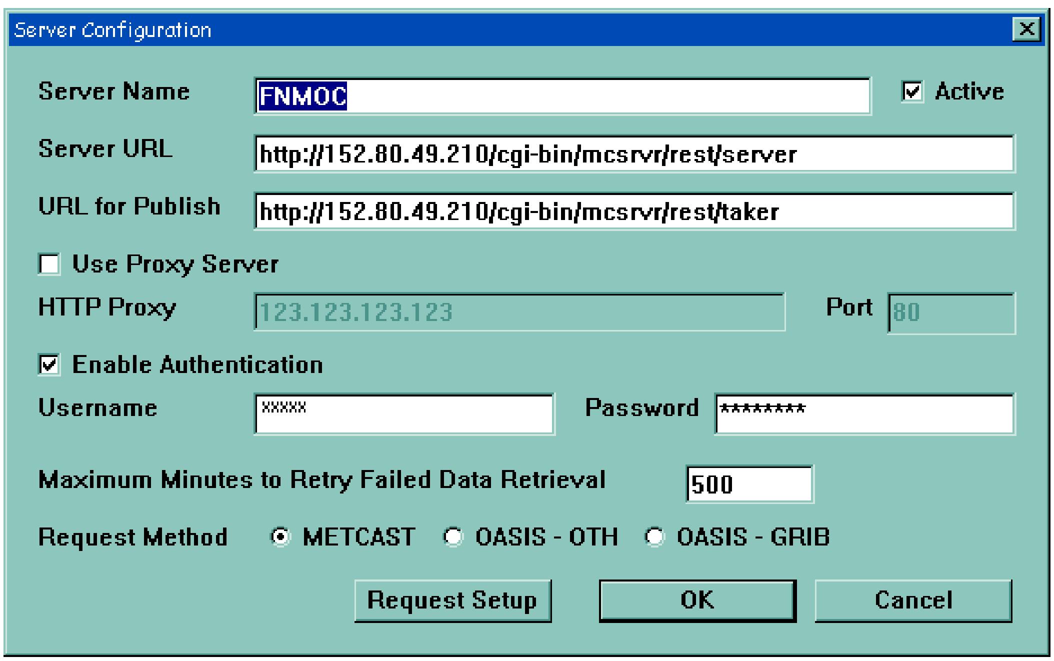


Figure 13. Source Configuration Dialog With Typical Entries

The **Server Name** label at the top shows the server affected by changes made in this dialog. The **Server URL** text box is used to enter the Uniform Resource Locator (URL) for the server, which identifies its location on the World Wide Web. The URL will always start with "http://" (this identifies the internet protocol used to transfer the data). The part following the double slash and before the next slash is called the *domain*, and specifies the internet address of the machine where the server resides. This can be either a string of four numbers as shown in Figure 13

(152.80.49.210) or an internet name (like zowie.metnet.navy.mil). The part following the slash after the domain that tells where the server is located on the domain machine.

METCAST client is supplied with a default source configuration that uses FNMOC servers for all data types. You can use these without modification if desired. If there are local servers at your location, however, you will probably get better response by specifying them. Your System Administrator should be able to provide you with the server addresses.

The **URL for Publish** text box is used to enter the URL for the channels server. Your System Administrator should be able to provide you with the server address.

For most servers, the **Request Method** radio button for **METCAST** should be selected.

The **Use Proxy Server** box should be checked if METCAST Client and the server are on opposite sides of a network firewall (a firewall is a system or group of systems that controls access to a set of networks). For data to pass through a firewall, a proxy server is usually required. A proxy server is a program, typically running on a firewall computer , that can be configured to block external access while permitting users behind the firewall to gain access to Internet resources. The **HTTP Proxy** text box lets you type in the Internet Protocol (IP) address of your proxy server, and the **Port** box allows you to specify the port to be used. Your System Administrator should have this information, if it is needed. The METCAST Client installation procedure will, in most cases, automatically sense your proxy setup and set these items for you.

The **Enable Authentication** box should be checked if your server requires you to log in to gain access. You can enter your **Username** and **Password** in the text boxes provided.

The **Maximum Minutes to Retry Failed Data Retrieval** text box specifies the maximum length of time the program will continue trying to retrieve a set of data. If not successful after this length of time, the program will discontinue attempts to retrieve the data.

The **Request Setup** button opens the dialog shown in Figure 14 below. This dialog is used to specify the scheduling of each of the request types.

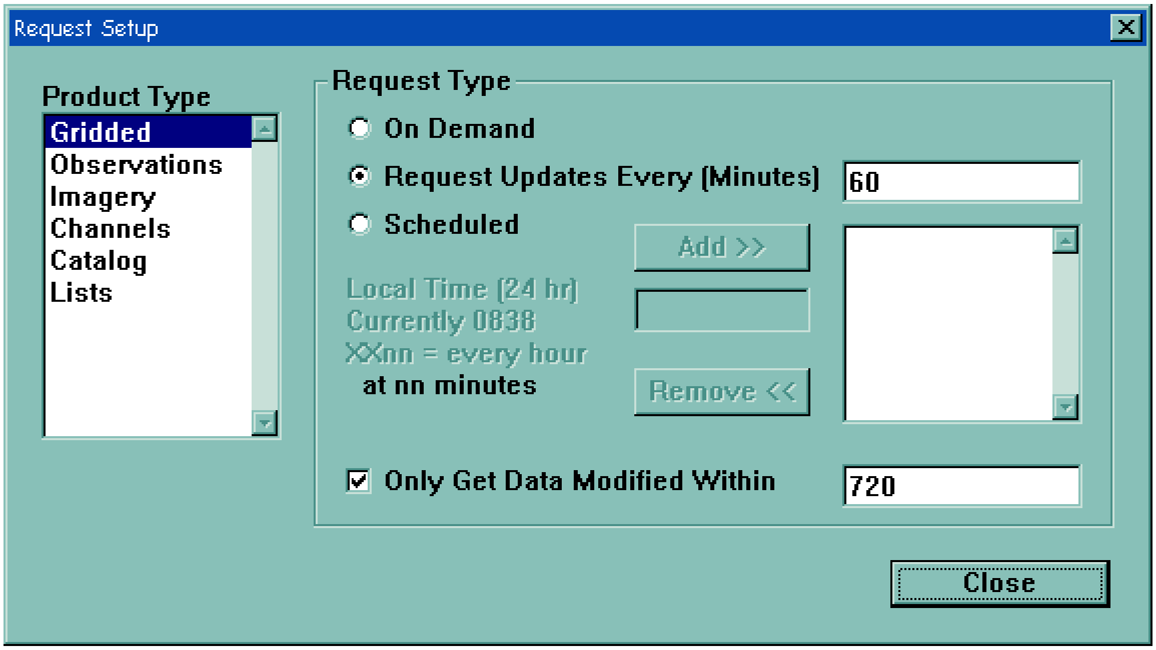


Figure 14. Request Setup Dialog

The drop-down list box at the top allows you to select the particular product type you want to configure. The radio buttons in the center section specify the type of retrieval to be done for this data type. The options are:

On Demand — The retrieval is performed once, as soon as the area is scheduled, and not repeated.

Request Updates Every (Minutes) — A retrieval is started when the area is scheduled. The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval.

Scheduled — Retrievals are started at specified times. When this option is selected, the **Add** >> and << **Remove** buttons and the **Local Time** text box between them become active. You can type a time into the Local Time text box and then click the **Add** >> button to add it to the list of times shown in the list box at the right. You can remove a time from the list by highlighting it and then clicking the << **Remove** button. A retrieval will be started at each of the specified times.

The **Only Get Data Modified Within (minutes)** checkbox and text box can be used to keep you from reloading old data continuously. The default setting is to only download data modified within the last 12 hours.

The **Close** button accepts your selections and closes the dialog.

The **OK** button in the Server Configuration dialog accepts the settings on the screen and exits the dialog. These settings will then be used until changed. The **Cancel** button exits the dialog without making any changes to the settings.

5.3 Defining, Selecting, and Managing Areas

This section deals with creating, selecting, and managing areas of interest. In order to retrieve data through METCAST, you must first tell it what geographic area you want to retrieve data for. To do this, you set up areas of interest. For each area you have defined, the METCAST Requestor creates a file tree which contains information about the area, a "thumbnail" map of the area for its icon, the list of products you desire to retrieve for that area, and information about the scheduling of retrievals for that area. The file tree will also contain the data retrieved for the area.

5.3.1 Creating an Area

To begin creating a new area, either click on the **Create Area** icon in the toolbar or pull down the **Area/List** menu and select **Create News Area...**. This opens the Choose Area Type dialog shown in Figure 15.

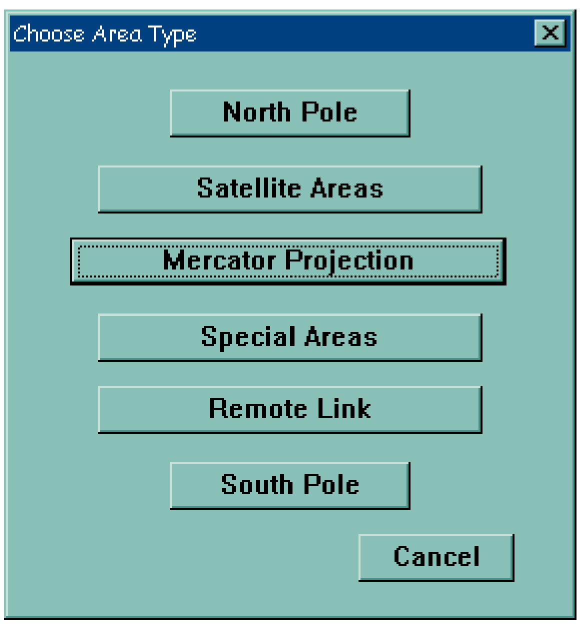


Figure 15. The Choose Area Type Dialog

The area types available are:

North Pole An area in polar stereographic projection centered at the North Pole. Clicking this button opens the North Pole area definition map shown in Figure 16.

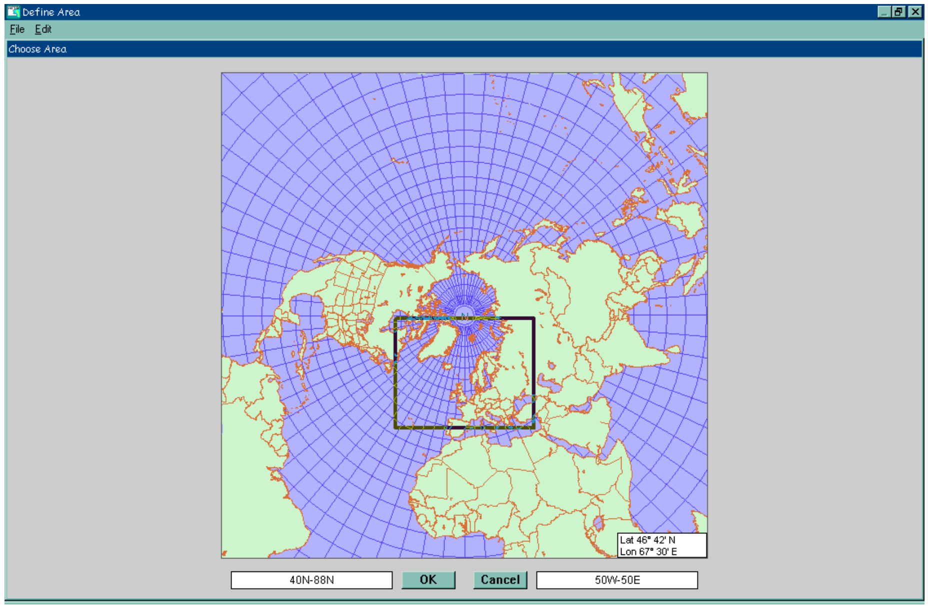


Figure 16. North Pole Area Definition Map

Satellite Areas Allows you to select from a pre-defined list of areas commonly used for satellite imagery. **You MUST use a satellite area if you want to retrieve satellite imagery.** Clicking this button opens the Satellite Area selection map shown in Figure 17.

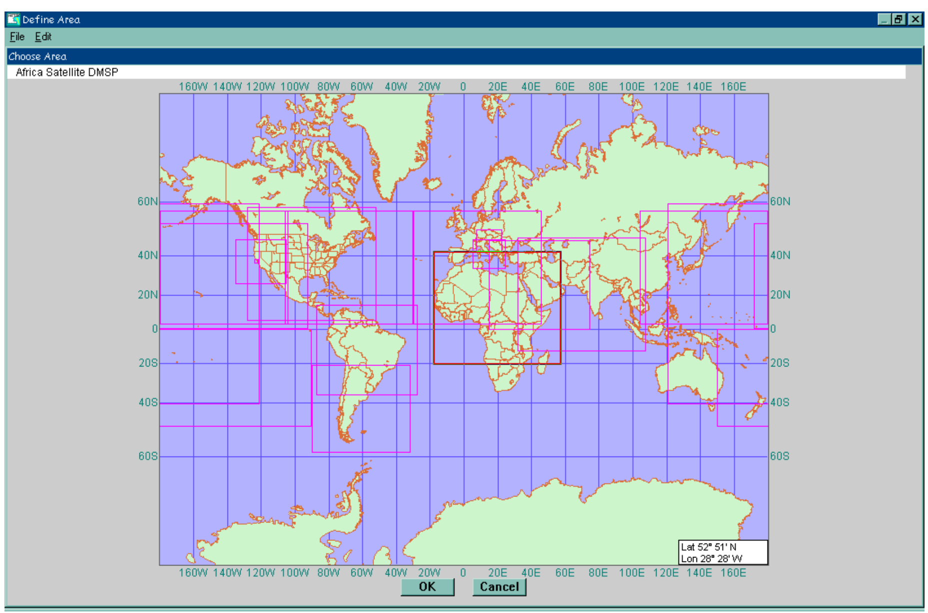


Figure 17. Satellite Areas Selection Map

Mercator Projection is for definition of areas on the standard Mercator projection. This is used for most areas in the mid-latitudes and equatorward. Clicking this button opens the Mercator area definition map shown in Figure 18.

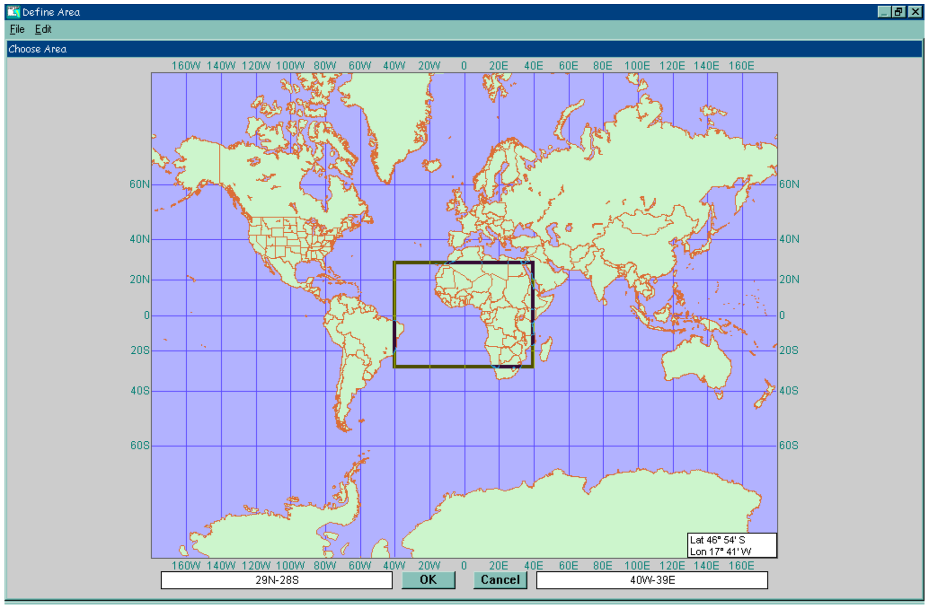


Figure 18. Mercator Projection Area Definition Map

Special Areas lets you select from a set of areas defined for special purposes. This is similar to the Satellite Areas selection process. Clicking on the Special Areas button opens the Special Areas selection map shown in Figure 19.

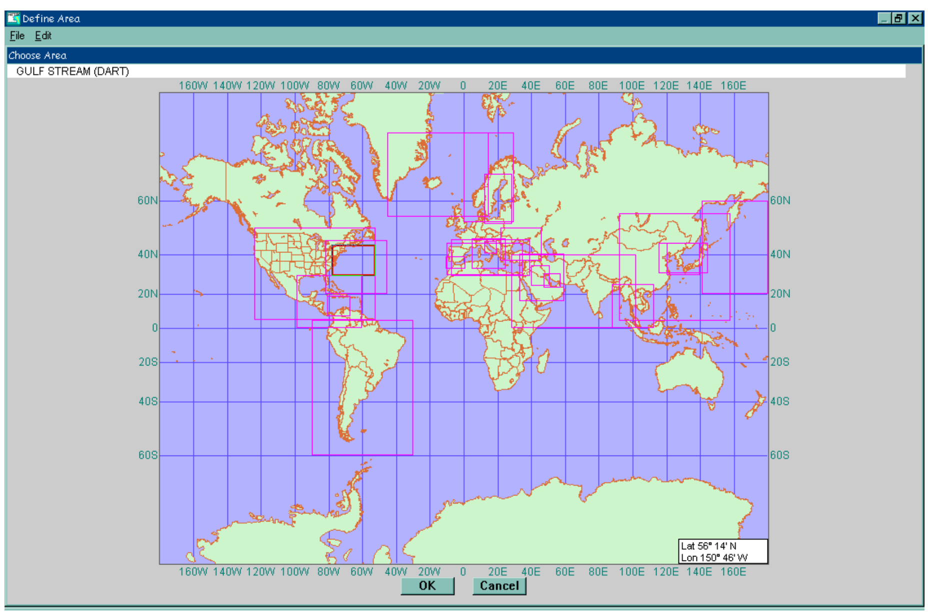


Figure 19. Special Areas Selection Map

South Pole An area in polar stereographic projection centered at the South Pole. Clicking this button opens the South Pole area definition map shown in Figure 20.

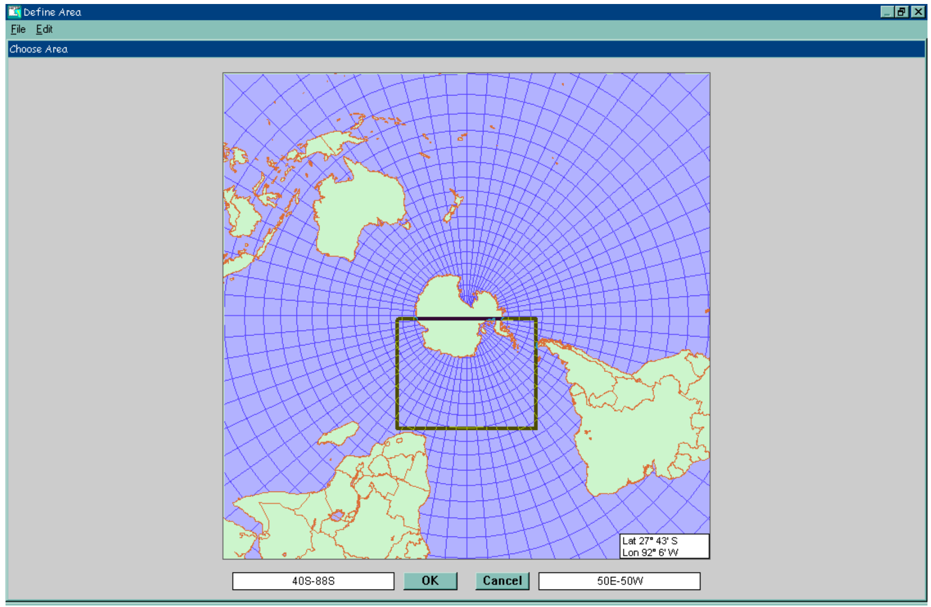


Figure 20. South Pole Area Definition Map

In the North and South Pole and Mercator selection maps, a selection box is outlined in black. If you place the cursor over an edge of this box, the cursor changes to a diagonal 2-headed arrow, and you can reshape the box by pressing and holding the left mouse button while you move the mouse to "drag" the edge. As you do, the readouts below the map will change to show you the extent of the geographic area covered by the box. The left-hand readout shows the latitude range covered by the box and the right-hand readout shows the longitude range.

If you place the cursor inside the box, the cursor changes to a 4-headed arrow, and you can press and hold the right mouse button and drag the box to a new location (on the polar stereographic projections, this also rotates the box).

In the Satellite Areas and Special Areas maps, the defined areas are shown as outlines. You just click near the center of an area's outline to select it. When an area is selected, its name appears at the upper left corner of the map.

For all selections, the **Cancel** button exits the map or selection dialog without creating a new area. When you click on the **OK** button, Preview Area map opens showing the area you have just defined. Such a map is shown in Figure 21.

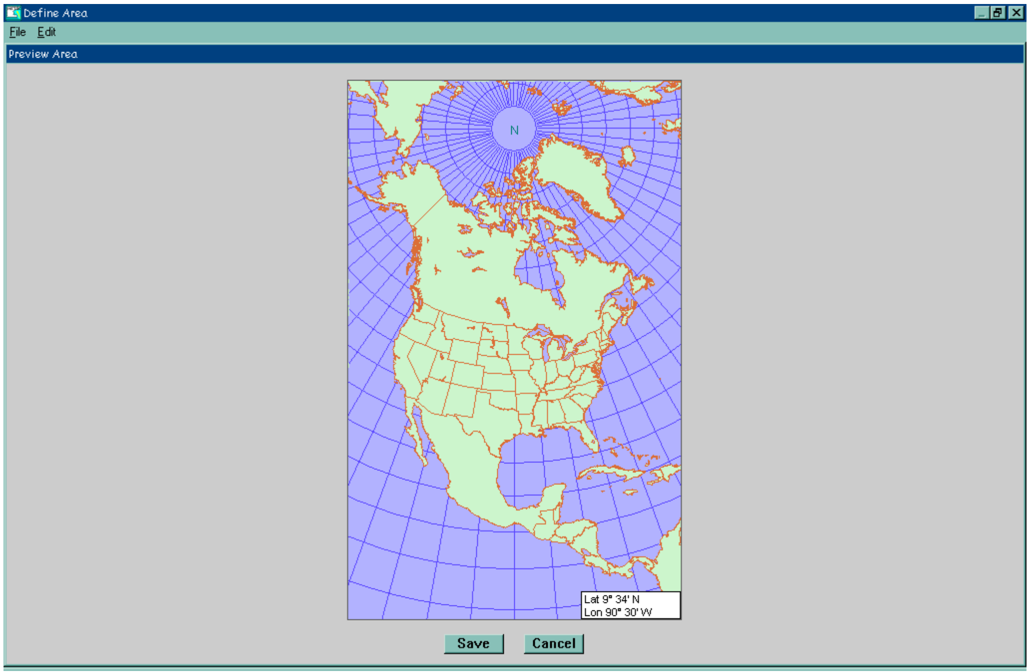


Figure 21. Preview Area Map

If your initial selection was a Special Area, this box will display a black outline around the selection that allows you to further resize the area by dragging the edges of the box or the entire box as described above. For other area types, this box simply shows a preview of the area you have defined or selected, with no further resizing options.

Once the area is properly defined, click the **Save** button to save the area definition. This opens the Name An Area dialog shown below.

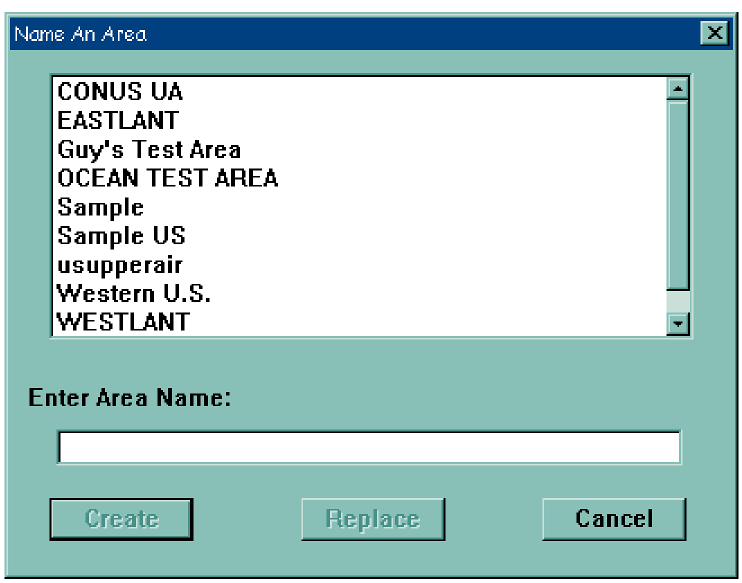


Figure 22. Name An Area Dialog

The list box at the top shows existing area names. The **Enter Area Name:** box at the bottom allows you to enter a new area name. You can also overwrite an existing area definition by clicking on its name in the list box, which will write the name in the Enter Area Name box.

If you entered a new area name, the **Create** button will be activated, and you can click on it to create the new area definition and its file tree. If you entered an existing area name, or clicked on an area in the list box to enter its name, the **Replace** button will be activated, and you can click on it to save the revised area definition.

If you Replace an area, any existing data for that area will be removed from the area directory. This prevents problems that would arise from trying to display data created with an older area definition.

As in other dialogs, the **Cancel** button exits the Create Area procedure without saving the new area.

5.3.2 Selecting an Area

To select any defined area, just click on its icon in the work area. The icon will then be displayed with a red outline. Only one area may be selected at a time. The actions in the **Area/List** menu affect the selected area only. You can also simultaneously select an area and open its context menu (a menu of actions to apply to the area) by right-clicking on the area icon. Figure 23 shows the context menu for an area.

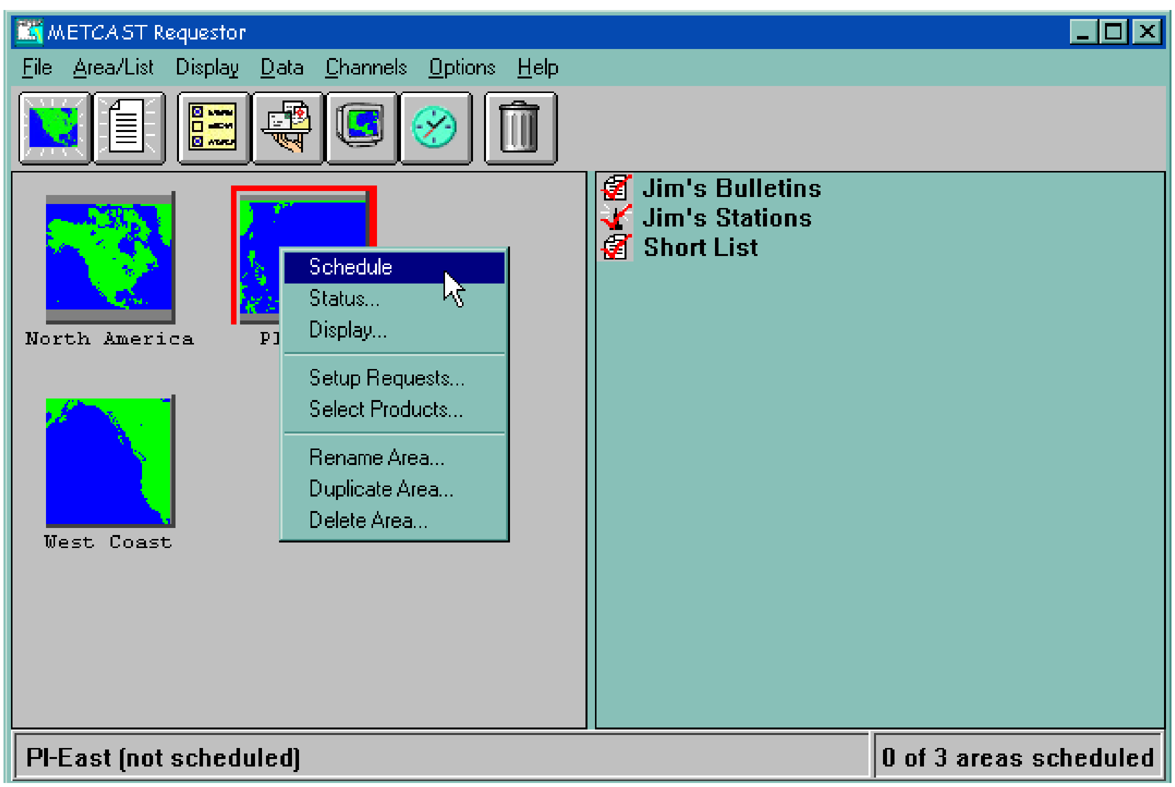


Figure 23. Area Icon With Context Menu

5.3.3 Deleting an Area

If you no longer need one of the defined areas, you can delete the area definition and all of the area's data files. This operation is permanent and all information for the deleted area will be lost. To delete an area, use one of the following three methods:

1. Click on the area icon to highlight it, then click on the **Delete Area** (trash can) icon in the toolbar.

2. Click on the area icon to highlight it, pull down the **Area/List** menu, and select **Delete Area...**.

3. Right-click on the area icon to open the context menu, and select **Delete Area...**.

Any of these actions will open the confirmation dialog shown in Figure 24.

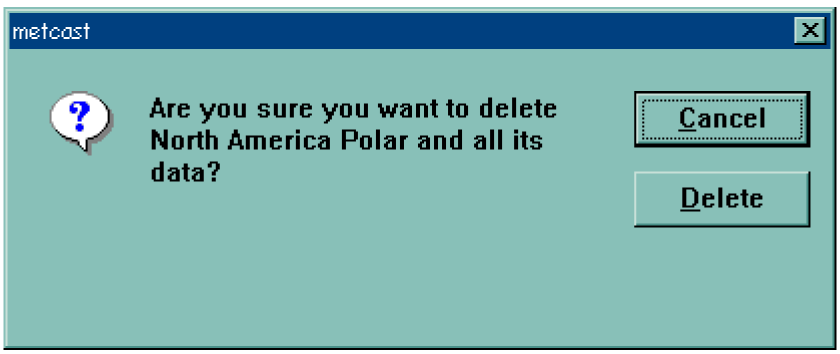


Figure 24. Delete Area Confirmation Dialog

Clicking the **Delete** button permanently deletes the area and its data. Clicking the **Cancel** button exits the Delete Area process without actually deleting the area.

5.3.4 Renaming an Area

You can rename an area <u>without</u> disturbing any of the data in the area's file tree (that is, anything you downloaded under the old area name will still remain available under the new name). To rename an area, use any of the following two methods:

1. Click on the area icon to highlight it, pull down the **Area/List** menu, and select **Rename Area...**.

2. Right-click on the area icon to open the context menu, and select **Rename Area...**.

Any of these actions will open the JMV Change Area dialog shown in Figure 25.

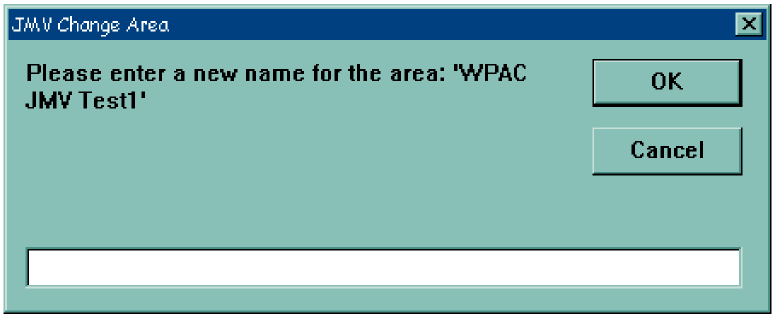


Figure 25. JMV Change Area Dialog

Type the new area name in the box at the bottom and click the **OK** button to rename the area. Clicking the **Cancel** button exits without renaming the area.

5.3.5 Duplicating an Area

You can make a copy of an area under a new name (this copies the area definition and all of the data downloaded for the area). To duplicate an area, use either of the following 2 methods:

1. Click on any area's icon to highlight it. Pull down the **Area/List** menu and select **Duplicate Area...**.

2. Right-click on any area's icon to open its context menu. Select **Duplicate Area...**.

Either of these actions opens the Duplicate Area dialog shown in Figure 26.

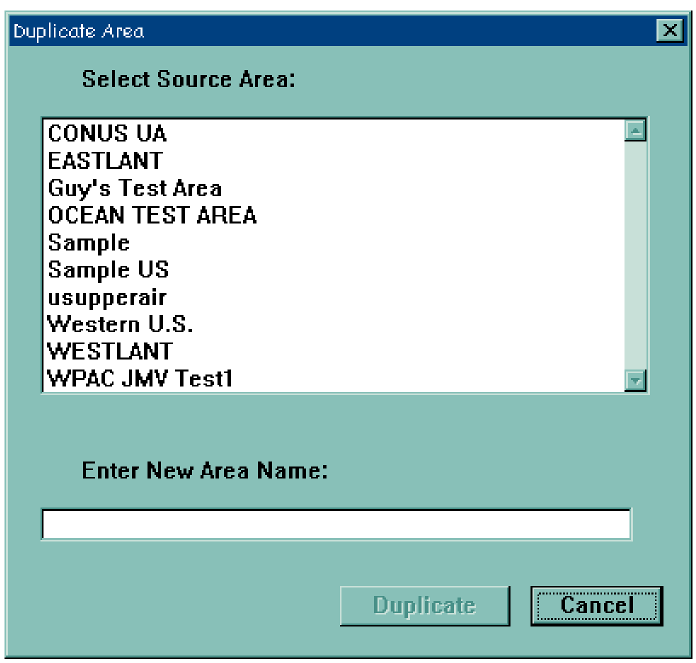


Figure 26. Duplicate Area Dialog

Highlight the source area (the area to be duplicated) by clicking on it in the **Select Source Area** list box. Type a new name into the **Enter New Area Name** box at the bottom, then click on the **Duplicate** button to duplicate the area. Clicking the **Cancel** button exits without duplicating the area.

5.4 Selecting Products for Retrieval

Once an area is set up, you must tell METCAST Client what products to retrieve for that area. You can do this by:

1. Clicking on the area's icon to highlight it and clicking on the **Assign Products** button in the toolbar.

2. Clicking on the area's icon to highlight it, pulling down the **Area/List** menu, and selecting **Select Products...**.

3. Right-clicking on the area's icon to open its context menu, then selecting **Select Products...**.

Any of these actions will open the Product Selection dialog shown in Figure 27.

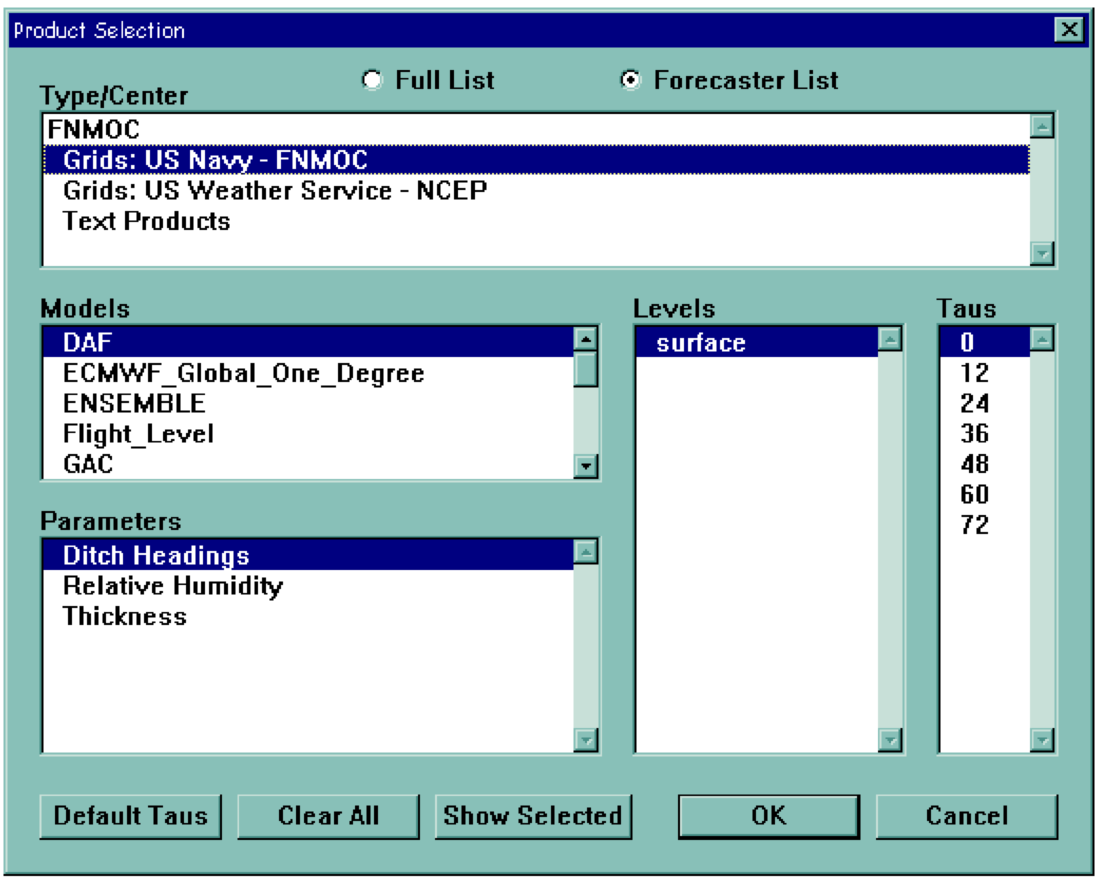


Figure 27. Product Selection Dialog

This dialog shows all of the products available from the currently selected server. The **Forecaster List** and **Full List** radio buttons switch between the list of products most frequently used by forecasters and the full list of products available from the server.The **Type/Center** list shows groupings by product type and the originating center. The example shows Grids from FNMOC and from the National Meteorological Center (NMC), plus Text Products**.** ***The Text Products type includes observations (METAR/SPECI, TAF, and Upper Air (UAR)***. Other product types shown in Text Products (SIGMETs, tc-warnings) need not be selected because they are automatically downloaded through a special channel. The four lists below the Type/Center list are broken down as follows:

- **Models** shows the models available for the selected product type and center.
- **Parameters** shows the parameters available for the selected product type/center and model.
- **Levels** shows the levels available for the selected product type/center, Model, and Parameter.
- **Taus** shows the forecast hours available for the selected product type/center, Model, Parameter, and Level. The forecast hour is the time after the base (analysis) time at which the forecast is valid. For example, tau 24 identifies a forecast valid 24 hours after the analysis on which it is based.

To select a particular product, select the Type/Center desired, then select the Model, then the Parameter, then the Level. Finally, click twice on each desired forecast hour desired. The program inserts an asterisk next to each selected tau, and the items higher in the list (Model/Area, Product, Level) are also marked with an asterisk.

You can simplify the process considerably by selecting the **Default Taus** button and specifying default taus to apply to all products selected. The **Default Taus** button opens the Set Default Taus dialog box shown in Figure 28.

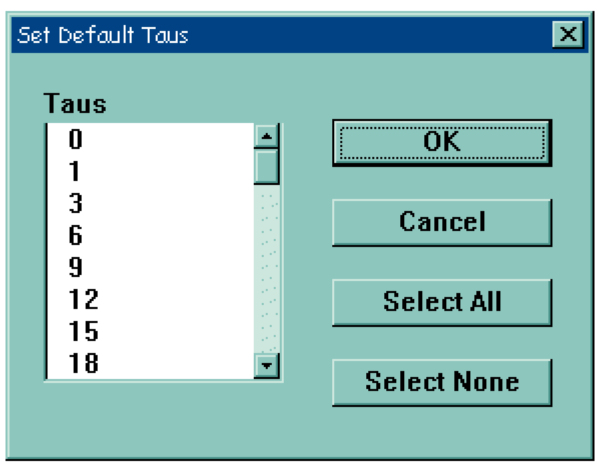


Figure 28. Set Default Taus Dialog

You can select a tau as default by double-clicking on it in the Taus list. To select all taus, click the **Select All** button. To deselect all taus, click the **Select None** button. To accept your selections and exit, click the **OK** button. To exit without making any selections permanent, click the **Cancel** button.

When you have selected Default Taus, the Product Selection dialog changes to show a ">" next to each default tau, as shown in Figure 29.

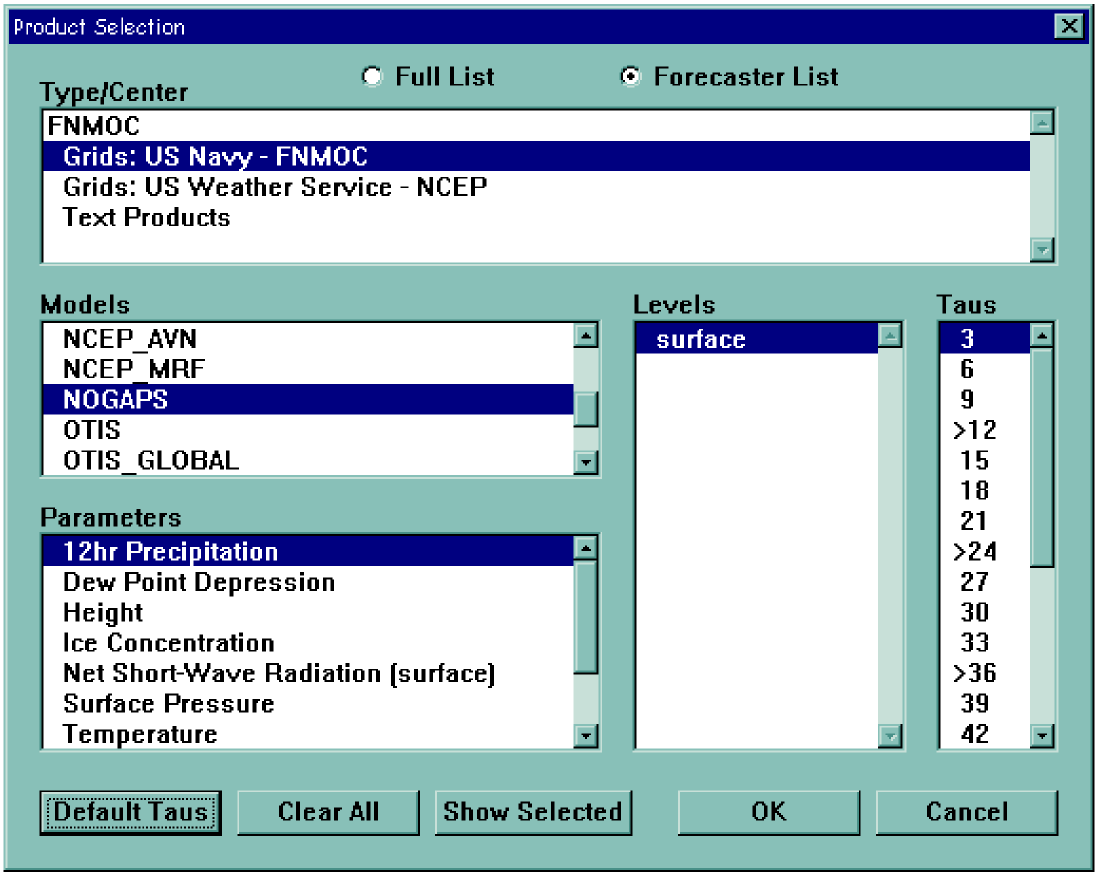


Figure 29. Product Selection Dialog Showing Default Taus

To select products with the default taus, all you need to do is select the Type/Center, Model/Area, and Product, and then double-click on the Level. The program then inserts an asterisk next to each of the default taus, indicating that it is selected, as shown in Figure 30.

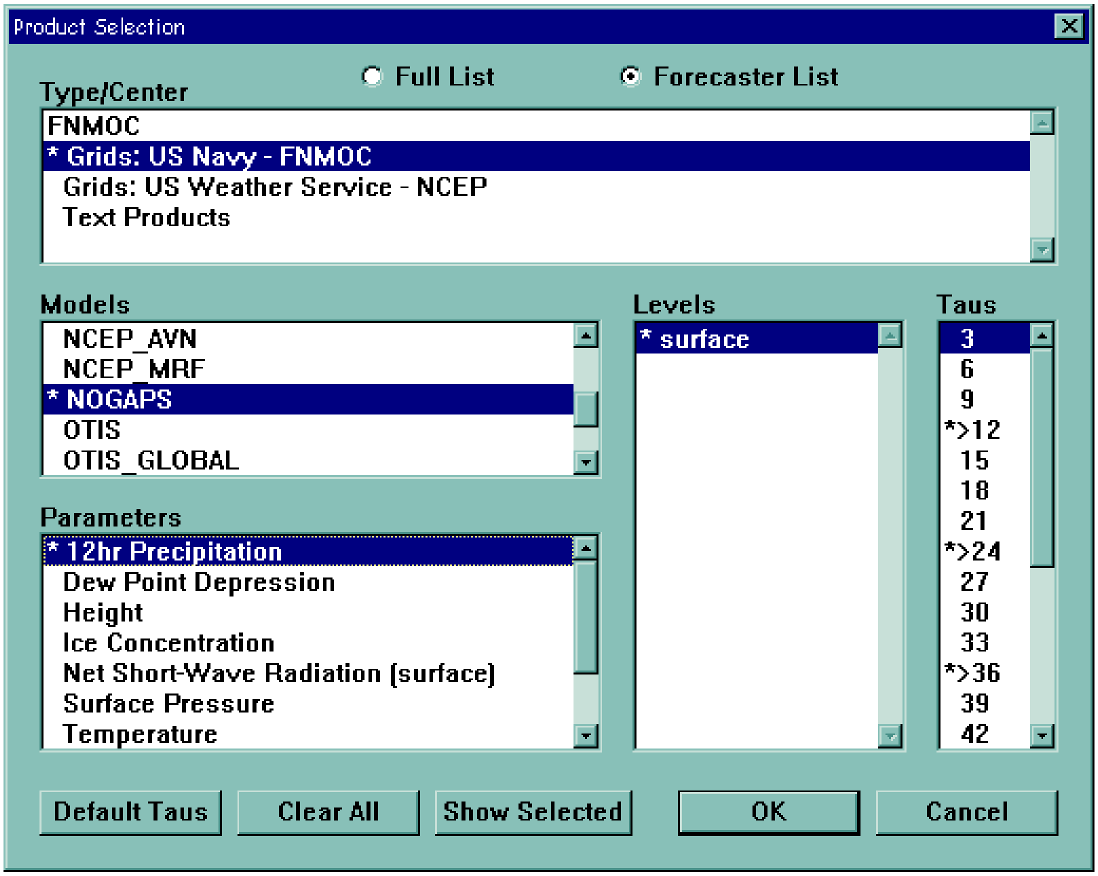


Figure 30. Product Selection Dialog With Default Taus Selected

You can then deselect any undesired taus by double-clicking on them. Likewise, you can select additional taus by double-clicking on them.

The **Clear All** button clears all of your selections. The **Show Selected** button opens the Selected Products list, shown in Figure 31.

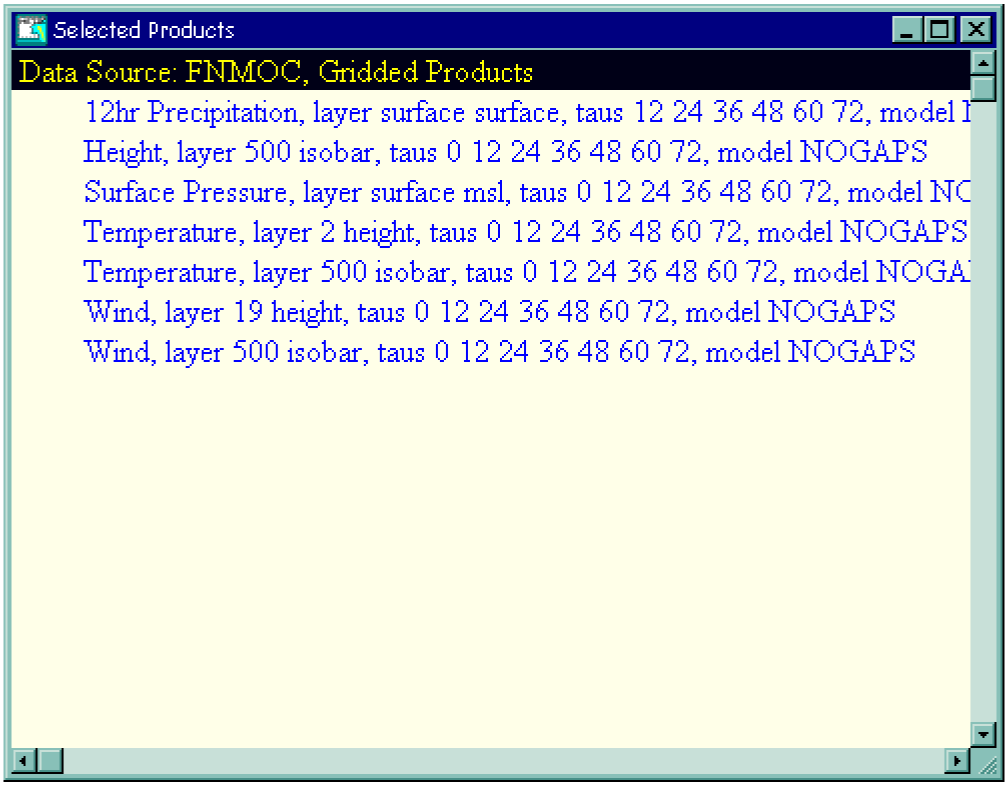


Figure 31. Selected Products Dialog

This list shows all of the products you have selected so far. To close it, click the **Close** icon in the upper right corner.

The **OK** button in the Product Selection dialog accepts your selections and closes the dialog. The **Cancel** button closes the dialog without making any changes to the product selections for the area.

5.5 Setting Up Requests

Once you have selected an area and the set of products to retrieve for that area, you can tell METCAST Client when and how often to retrieve each product type. To start the process, either:

1. Click on the area's icon to highlight it and then click on the **Configure the selected area...** button in the toolbar,

2. Click on the area's icon to highlight it, pull down the **Area/List** menu, and select **Setup Requests...**, or

3. Right-click on the area's icon to open its context menu, and select **Setup Requests...,** or

4. Open the **Options** menu, select the **Servers…** option, highlight a server, click the **Edit** button, then click the **Request Setup** button in the Server Configuration dialog.

Any of these actions will open the Area Properties dialog, shown in Figure 32.

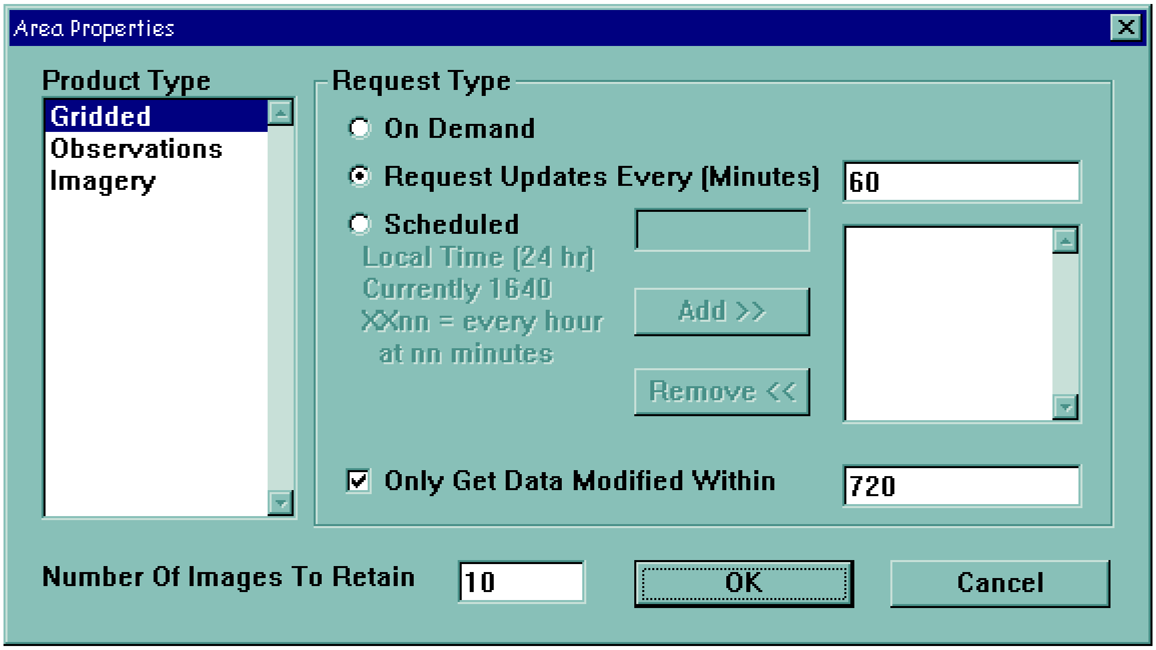


Figure 32. Area Request Setup Dialog

The drop-down list box at the top allows you to select the particular server you want to configure (servers are identified by the data types they serve). The radio buttons in the center section specify the type of retrieval to be done for this data type. The options are:

The **Only Get Data Modified Within (minutes)** checkbox and text box can be used to keep you from reloading old data continuously. The default setting is to only download data modified within the last 12 hours.

The **Number of Images to Retain** text box is only active for satellite images, and specifies the number of images to be kept on your local disk.

The **OK** button accepts your selections and closes the dialog. The **Cancel** button closes the dialog without making any changes to the settings that were in place before it was opened.

5.6 Setting Up Lists

Lists provide a non-geographic way to select certain types of data for download and display as text. There are two types of lists:

1. **Bulletin List** is a list of plain text bulletins to be downloaded. These may include bulletins containing collections of observations in WMO code format, or simply plain text that is not decodable. Bulletins are identified by their Manual of Operations (MANOP) header, as specified in *WMO-386*, and as shown in the table below. This table shows the WMO designators for the type and subtype of the bulletin; for example, a bulletin whose MANOP

header starts with "WA" contains SIGMET and AIRMET warnings. The next two characters in the MANOP header identify the geographic area covered by the report, and the last two characters provide a sequential number. A space follows, then the ICAO identifier of the station that originated the bulletin. Finally, after another space, the date and time of the bulletin appear.

Type	Type (Table A) Designator	Subtype (Table B1) Designator
Forecast Reports	F	E = Extended Forecast H = Upper Air Thickness I = Iceberg J = Radio Warning Service K = Tropical Cyclone Advisories L = Local Area Forecasts M = Temperature Extremes O = Guidance Q = Other Shipping V = Volcanic Ash W = Winter Sports X = Miscellaneous
Surface Reports	S	T = Sea Ice U = Snow Depth X = Miscellaneous
Upper Air Reports	U	X = Miscellaneous
Warnings	W	A = AIRMET/SIGMET C = Tropical Cyclone (SIGMET) D = Tropical Cyclone Discussion E = Tsunami F = Tornado (USAF) G = River Flood H = Hurricane M = High Seas (USAF) O = Other S = SIGMET T = Tropical Cyclone (Typhoon) U = Severe Thunderstorm V = Volcanic Ash (SIGMET) W = Military Weather Warnings (USAF) X = Misc. Weather Warnings (USAF)
Notices	N	G = Hydrological H = Marine N = Nuclear Emergency O = METNO/WIFMA P = Product generation delay T= Test Message W = Warning Related or Cancellation

A typical MANOP header, then, might be something like WTPN31 PGTW 030200. The W indicates that the bulletin contains warnings, the T that it contains tropical cyclone warnings. The PN portion indicates that the warnings are for the North Pacific, and PGTW indicates that the bulletin was originated by the Joint Typhoon Warning Center. Finally, the

030200 group shows that the report is for the third day of the current month and was issued at 0200Z.

2. **Station List** consists of a list of ICAO station call signs and a specification of the type(s) of data to be downloaded for each station on the list. The data types currently available are METARs (hourly surface observations) and SPECIs (special surface observations), TAFs (terminal aerodrome forecasts), surface synoptic reports, and upper air reports.

To set up a list, begin by clicking on the **Area/List** item in the Menu Bar, then selecting **Create New List** from the drop-down menu. This opens the Create New List dialog shown below.

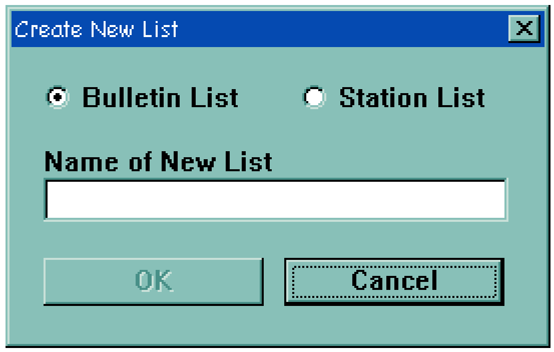


Figure 33. The Create New List Dialog

Select the type of list to be created and enter a name for the list in the entry box. The **OK** button will then be activated and you can click on it to proceed. If you don't want to create a list, click on the **Cancel** button instead.

What happens next depends on the type of list you selected. The steps for each type are shown in the subsections below.

5.6.1 Selecting Bulletins for a Bulletin List

If you selected Bulletin List in the Create New List dialog and clicked the **OK** button, the Edit Bulletin List dialog shown in Figure 34 will be displayed.

The radio buttons at the top allow you to select bulletins by bulletin name or by originator; **Bulletin Name** is selected by default. These buttons allow the user to select the scrolling mode for the **Available Bulletins** list. If **Bulletin Name** is selected, the list scrolls by bulletin name. If **Originator** is selected, the list scrolls by the ICAO station name (e.g. KNZY, KWBC, etc). There are two lists at the bottom; one shows bulletins available for selection and the other shows those currently selected. The **Server** drop-down menu lets you select the server from which you want to get the bulletins. The **Bulletin/Originator Name** box above the **Available Bulletins** list allows you to quickly scroll the **Available Bulletins** list by typing in a bulletin name. The box below the Bulletin/Originator Name and Server boxes shows a description of the bulletin currently highlighted.

The actual selection is normally made by highlighting an item in the **Available Bulletins** list and using the **->** button between the lists to move it to the **Selected Bulletins** list. Beginning with release 1.2.0.3, it is also possible to enter bulletin names that are not on the **Available Bulletins** list and move them to the **Selected Bulletins** list.

A powerful feature for bulletin selection is wildcarding using the % sign. To select all bulletins whose names begin with A, for example, the user can simply enter A%. To select all tropical cyclone warnings, enter WT%. **Use of wildcards is strongly encouraged when large numbers of bulletins are being requested, because wildcarding results in a much more efficient query to the database and improves METCAST's performance in bulletin retrieval.**

The **<-** button is used to delete an item from the **Selected Bulletins** list and move it back to the **Available Bulletins** list. The **<<-** button clears the **Selected Bulletins** list, moving all items back to the **Available Bulletins** list. The **Server** drop-down list allows you to select the server which will serve as the download source (from the list of servers you have defined).

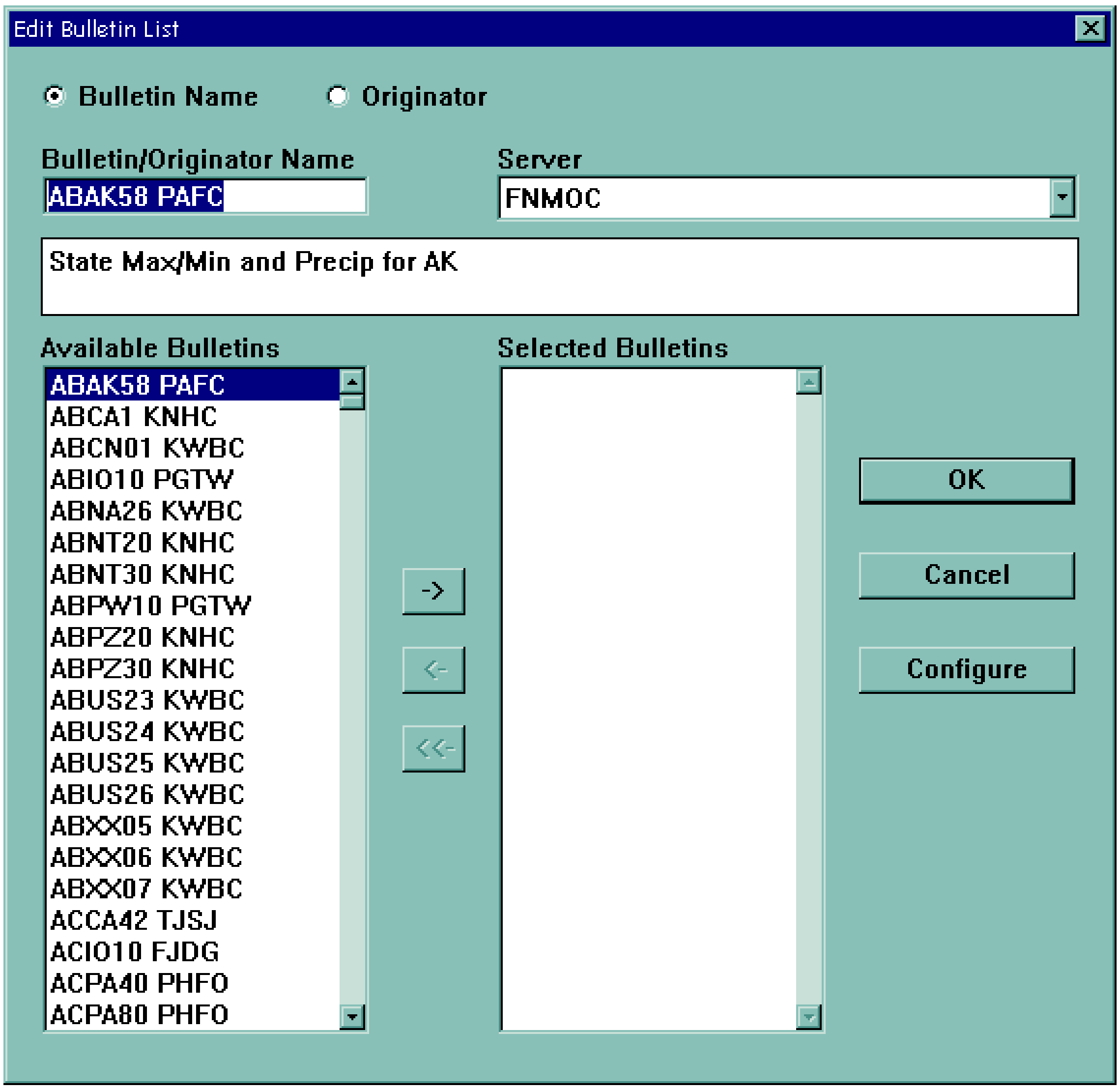


Figure 34. Edit Bulletin List Dialog

The **Configure** button opens the Configure List Request dialog shown in Figure 36.

The drop-down list box at the top allows you to select the particular product type you want to configure. The radio buttons in the center section specify the type of retrieval to be done for this data type. The options are:

On Demand — The retrieval is performed once, as soon as the area is scheduled, and not repeated.

Request Updates Every (Minutes) — A retrieval is started when the area is scheduled. The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval.

Scheduled — Retrievals are started at specified times. When this option is selected, the **Add >>** and **<< Remove** buttons and the **Local Time** text box between them become active. You can type a time into the Local Time text box and then click the **Add >>** button to add it to the list of times shown in the list box at the right. You can remove a time from the list by highlighting it and then clicking the **<< Remove** button. A retrieval will be started at each of the specified times.

The **Only Get Data Modified Within (minutes)** checkbox and text box can be used to keep you from reloading old data continuously. The default setting is to only download data modified within the last 12 hours.

The **Discard Data After (Minutes)** box lets you specify how long downloaded bulletins will remain on your system. After the number of minutes specified, the bulletin(s) will be deleted.

The **Report Versions to Keep** box allows you to specify how many reports will be kept on your system at any given time. As new reports are received, the oldest remaining reports will be deleted.

The **OK** button accepts your selections and closes the dialog. The **Cancel** button closes the dialog without changing any options.

The **OK** button in the Edit Bulletin List dialog accepts the current selections and closes the dialog. The **Cancel** button closes the dialog without making any changes.

5.6.2 Selecting Stations and Products for a Station List

If you selected Station List in the Create New List dialog and clicked the **OK** button, the Edit Station List dialog shown in Figure 35 will be displayed.

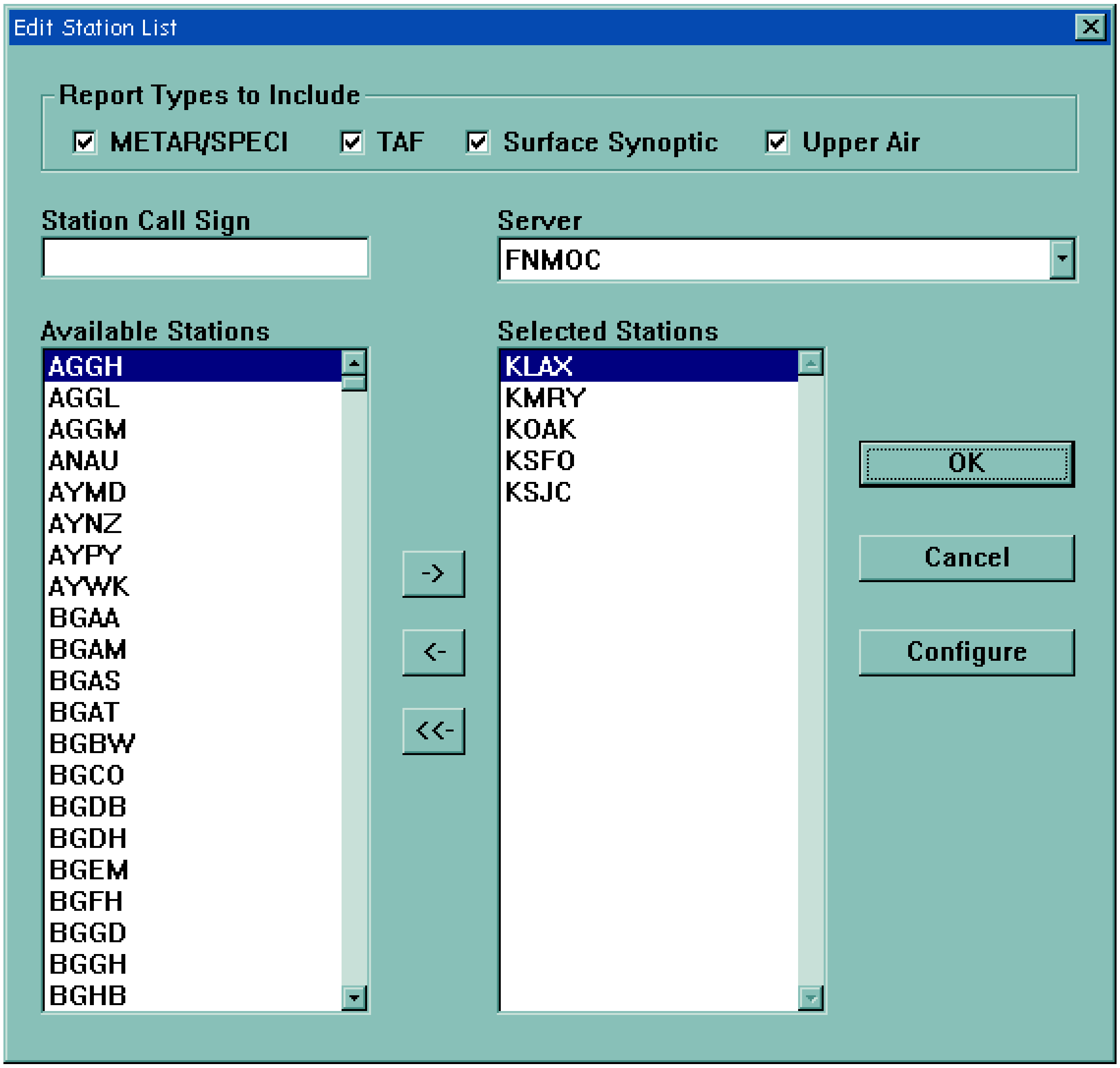


Figure 35. Edit Station List Dialog

The check boxes at the top allow you to select the type(s) of data to be downloaded for each station selected. There are two lists at the bottom; one shows stations available for selection and the other shows those currently selected. The **Station Call Sign** box above the **Available Stations** list allows you to quickly scroll the **Available Stations** list by typing in a station name. The actual selection is made by highlighting an item in the **Available Stations** list and using the **->** button between the lists to move it to the **Selected Stations** list. The **<-** button is used to delete an item from the **Selected Stations** list and move it back to the **Available Stations** list. The **<<-** button clears the **Selected Stations** list, moving all items back to the **Available Stations** list. The **Server** drop-down list allows you to select the server which will serve as the download source (from the list of servers you have defined).

The **Configure** button opens the Configure List Request dialog shown in Figure 36.

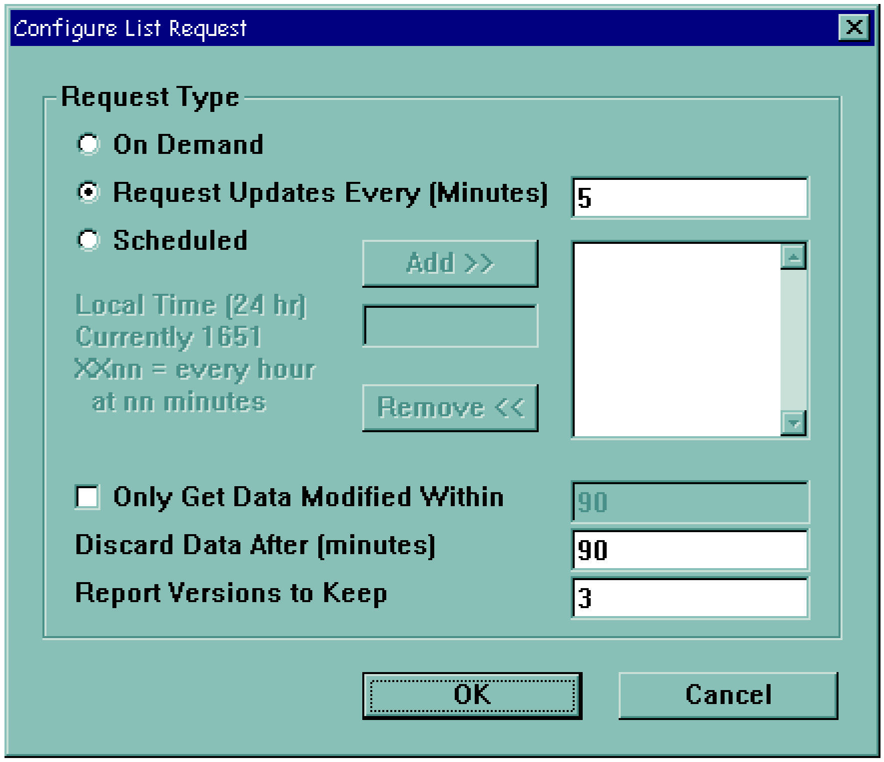


Figure 36. Configure List Request Dialog

The drop-down list box at the top allows you to select the particular product type you want to configure. The radio buttons in the center section specify the type of retrieval to be done for this data type. The options are:

On Demand — The retrieval is performed once, as soon as the area is scheduled, and not repeated.

Request Updates Every (Minutes) — A retrieval is started when the area is scheduled. The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval.

Scheduled — Retrievals are started at specified times. When this option is selected, the **Add** >> and << **Remove** buttons and the **Local Time** text box between them become active. You can type a time into the Local Time text box and then click the **Add** >> button to add it to the list of times shown in the list box at the right. You can remove a time from the list by highlighting it and then clicking the << **Remove** button. A retrieval will be started at each of the specified times.

The **Only Get Data Modified Within (minutes)** checkbox and text box can be used to keep you from reloading old data continuously. The default setting is to only download data modified within the last 12 hours.

The **OK** button accepts your selections and closes the dialog. The **Cancel** button closes the dialog without changing any options.

The **OK** button in the Edit Station List dialog accepts the current selections and closes the dialog. The **Cancel** button closes the dialog without making any changes.

5.7 Scheduling an Area or List

Scheduling an area or list activates the retrievals you set up in the request setup. Data will only be retrieved for an area or list when it is scheduled. To schedule an area or list, either:

1. Click on the area icon or list name to highlight it and click the **Schedule/Unschedule** button in the toolbar,

2. Click on the area icon or list name to highlight it, pull down the **Area/List** menu, and select **Schedule**, or

3. Right-click on the area icon or list name to open its context menu and select **Schedule**.

When an area is scheduled, its icon will be overlaid with a red check mark. When a list is scheduled, a red check mark will appear to the left of its name in the Lists area. Note that if the area or list is only set up for **On Demand** retrievals, the red check mark will disappear when all retrievals are completed.

5.8 Displaying the Status of a Retrieval

METCAST Client provides two ways of checking the status of retrievals.

1. A Retriever Monitor to view the progress of current and past retrievals. The Retriever Monitor shows the status of each retrieval transaction in each retrieval session. A session is a retrieval for a specific type of data for a specific area. If you schedule a retrieval for an area whose product list includes grids, imagery, and observations, for example, you will start three separate retrieval sessions, one for each type of data. The retriever monitor also lets you stop individual retrieval sessions. More information about the Retriever Monitor is contained in Section 5.8.1.

2. An Area Status list that lists the products retrieved for an area. More information about the Area Status list is contained in Section 5.8.2.

5.8.1 Using the Retriever Monitor

Under Windows (NT, 98, or 2000), the Retriever Service and Retriever Monitor are started when you start METCAST Client. The Retriever monitor appears as a small "cloud" icon in the System Tray (the small group of icons at the right end of the task bar). Double-clicking this icon (or right-clicking it and selecting **Retriever Status** from the context menu) opens the Retriever Monitor, shown in Figure 37.

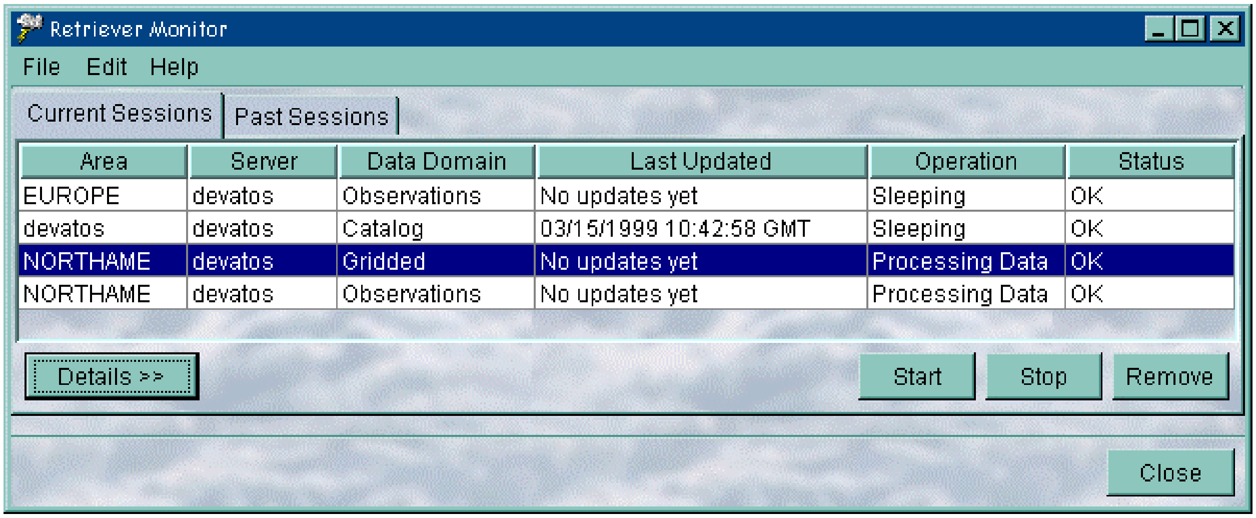


Figure 37. Retriever Monitor

This shows you the summary status of each retrieval in progress. It shows the area(s) for which data are being retrieved, the data server, the type of data (Data Domain), the time this data type was last updated, the operation currently in progress, and the status of the operation.

To see more detail, you can click on the **Details** >> button. This opens the detail display, as shown in Figure 38.

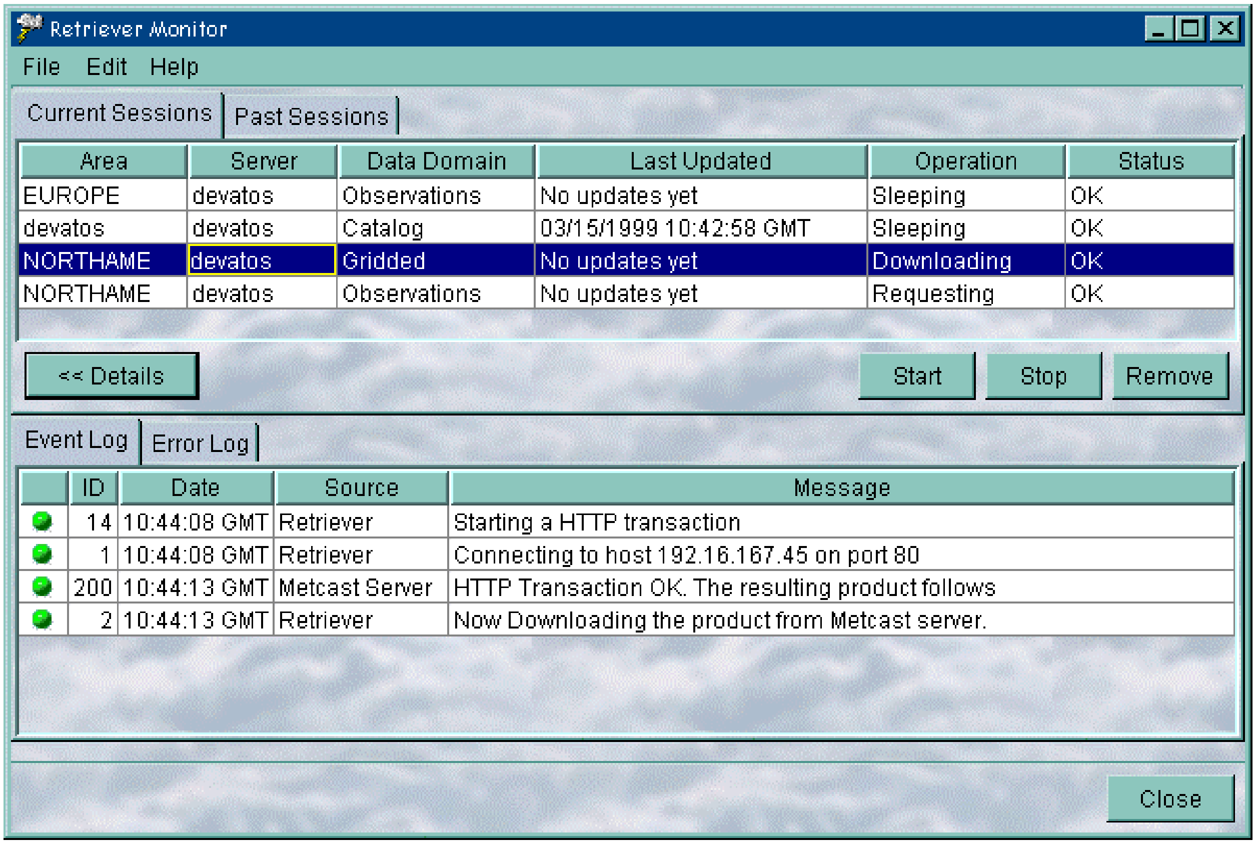


Figure 38. Retriever Monitor Showing Details for a Retrieval Session

The lower section shows the details of the session currently highlighted in the upper section. This shows all of the transactions between the METCAST Client and the Server. At the far right is a "stoplight" display that is green for good transactions, yellow for transactions that generated a warning, and red for failed transactions.

The **Stop** button is used to stop or suspend the retrieval session that is highlighted. The **Start** button may be used to restart a session that you have stopped. The **Remove** button stops the highlighted session and removes it from the list, so it cannot be restarted.

The **Close** button closes the Retriever Monitor display, but does not shut off the monitor itself.

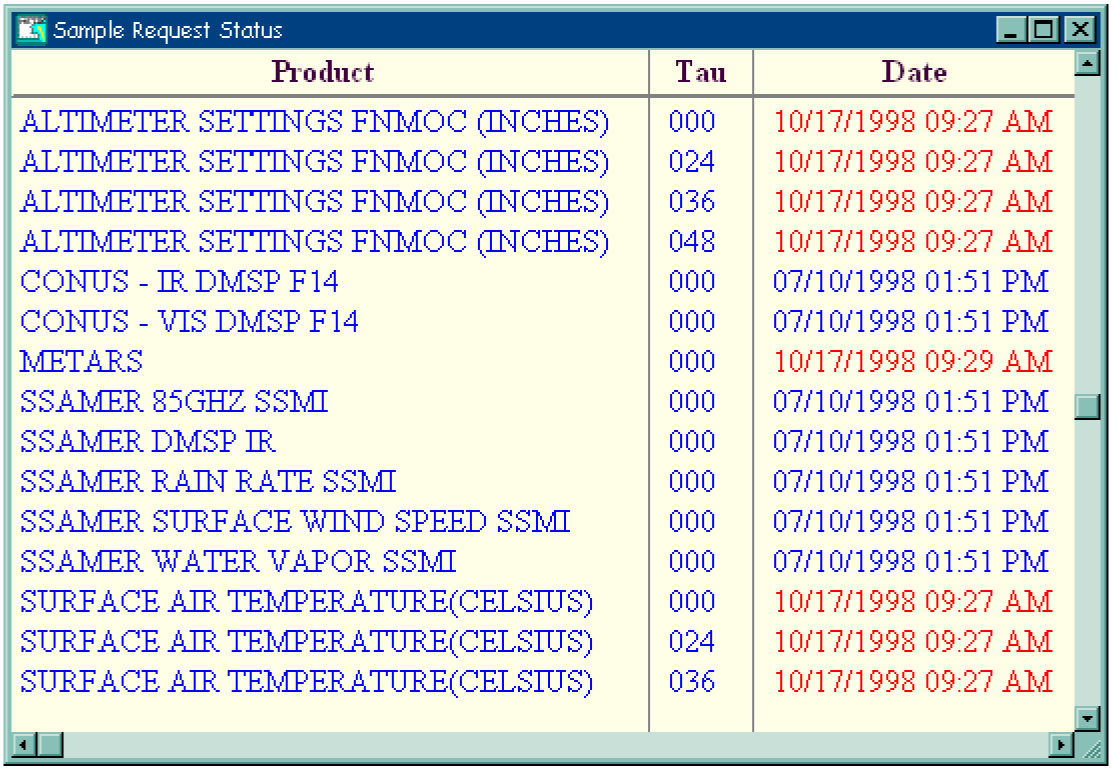
5.8.2 Using the Area Status Display

The status display may be accessed in two ways:

1. Clicking on the area's icon to highlight it, pulling down the **Area** menu, and selecting **Status...**, or

2. Right-clicking on the area's icon to open its context menu, and selecting **Status...**.

In either case, the program opens the status display for the area. A typical status display is shown in Figure 39.


Sample Request Status

Product	Tau	Date
ALTIMETER SETTINGS FNMOC (INCHES)	000	10/17/1998 09:27 AM
ALTIMETER SETTINGS FNMOC (INCHES)	024	10/17/1998 09:27 AM
ALTIMETER SETTINGS FNMOC (INCHES)	036	10/17/1998 09:27 AM
ALTIMETER SETTINGS FNMOC (INCHES)	048	10/17/1998 09:27 AM
CONUS - IR DMSP F14	000	07/10/1998 01:51 PM
CONUS - VIS DMSP F14	000	07/10/1998 01:51 PM
METARS	000	10/17/1998 09:29 AM
SSAMER 85GHZ SSMI	000	07/10/1998 01:51 PM
SSAMER DMSP IR	000	07/10/1998 01:51 PM
SSAMER RAIN RATE SSMI	000	07/10/1998 01:51 PM
SSAMER SURFACE WIND SPEED SSMI	000	07/10/1998 01:51 PM
SSAMER WATER VAPOR SSMI	000	07/10/1998 01:51 PM
SURFACE AIR TEMPERATURE(CELSIUS)	000	10/17/1998 09:27 AM
SURFACE AIR TEMPERATURE(CELSIUS)	024	10/17/1998 09:27 AM
SURFACE AIR TEMPERATURE(CELSIUS)	036	10/17/1998 09:27 AM

Figure 39. Request Status Display

This display simply shows the list of products retrieved for the selected area. Items retrieved during the latest run are displayed with dates and times in red; older items are displayed with dates in blue. This display is continuously updated, so that any newly retrieved data will show up almost immediately.

You may have status displays for multiple areas open simultaneously. To close a status display, pull down its control menu and select **Close**, or click on the **Close** button at the upper right corner.

5.9 Displaying Products

METCAST Client works together with Joint METOC Viewer (JMV) to display products retrieved. There are four ways to start JMV to display products on a map display:

1. Double-click the area's icon,

2. Click on the area's icon to highlight it, then click the **Display Products** button in the toolbar,

3. Click on the area's icon to highlight it, then pull down the **Display** menu and select **Map Display...**,

4. Right-click on the area's icon to open its context menu, then select **Display...**.

If you haven't configured a display program yet, a dialog will pop up asking you to do so. Pull down the **Display** menu and click on **Configure...**. This will open the Configure Viewers dialog shown in Figure 40.

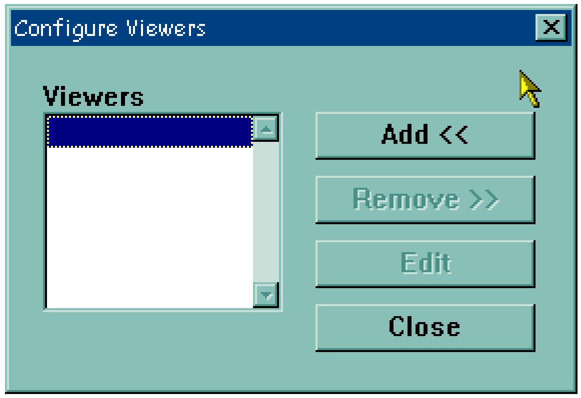


Figure 40. Configure Viewers Dialog

To add a viewer, ensure that a blank space is highlighted in the Viewers list (if not, click the blank space below the last item in the list) and click the **Add** << button. This will open the Edit Viewer dialog, shown in Figure 41.

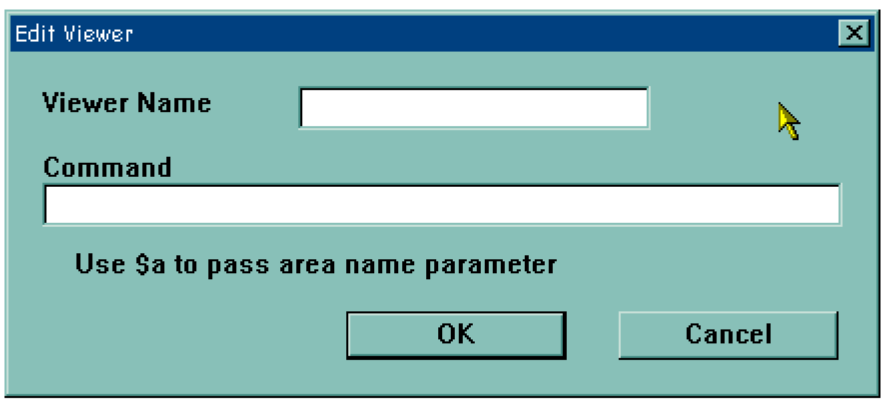


Figure 41. Edit Viewer Dialog

The **Viewer Name** type-in box is used to specify the viewer name that will appear on the Display menu. The **Command** type-in box is used to specify the path to the viewer. The default viewer for maps is a program called ***mdisplay***, which is located by default at ***C:\jmvwin\noddsfls\mdisplay.exe***. Note that to ensure that the program opens the display for the area that is highlighted, you must add a space and **$a** after the path name. The default entry for maps is then ***C:\jmvwin\noddsfls\mdisplay.exe $a***. Click the **OK** button to accept the new viewer definition and return to the Configure Viewers dialog. While there, you may want to add a viewer for Upper Air observations. To do this, first click the space <u>below</u> the entry for mdisplay to highlight it, and click the **Add>>** button. This will add the Skew-T viewer on the line below the map display viewer. The default viewer for upper air observations is located at ***C:\jmvwin\noddsfls\skewt.exe***. The viewer for map displays should be at the top of the list, since the item at the top is the one automatically selected when the **Display** icon is clicked.

Assuming that a viewer has been configured, any of the four actions listed above will open JMV's Choose Products dialog to allow you to select products to display.

You can also view Upper Air soundings in a Skew-T, Log P display by pulling down the **Display** menu and selecting **Skewt** (assuming that a viewer named Skewt has been configured as shown above). This will open a dialog that lets you choose soundings to display from the list of soundings downloaded.

The use of JMV to display products is discussed in the *Joint METOC Viewer User's Manual*, referenced in Section 2.

Section 5.1 contains information about using the text display program to view lists.

5.10 Channels

METCAST Client may also be used to subscribe to, manage, and retrieve and publish information via channels. Channels are a distribution method – they allow pieces of information to be published on a server and automatically distributed to sites that "subscribe" to the channel. Channels allow you to receive satellite images, answers to frequently asked questions (FAQs) about METCAST, software updates, METCAST presentations, and other information automatically as they are updated.

Most of the information you retrieve through channels is simply directed to the `channels` subdirectory under the `noddsfls` directory of the METCAST root directory. These items are not accessible directly to the Joint METOC Viewer. When you install METCAST, however, you are automatically subscribed to channels for Tropical Cyclone Warnings, SIGMETS, METARS, and TAFS. These items are distributed to directories where they are accessible by JMV.

Channels are managed via the **Channels** menu in the METCAST Requestor menu bar. To see the list of available channels, you must first select the **Subscribe** option under the **Channels** menu. Doing this downloads the channel list. If you choose the **Select Channels...** option without first subscribing, you will see a dialog box that tells you the channel list is not available and you must subscribe first.

The **Request Setup...** option under the **Channels** menu allows you to specify how often information is retrieved through the channel and/or to specify the times at which retrievals will be done. Figure 42 shows the Channels Request Setup dialog.

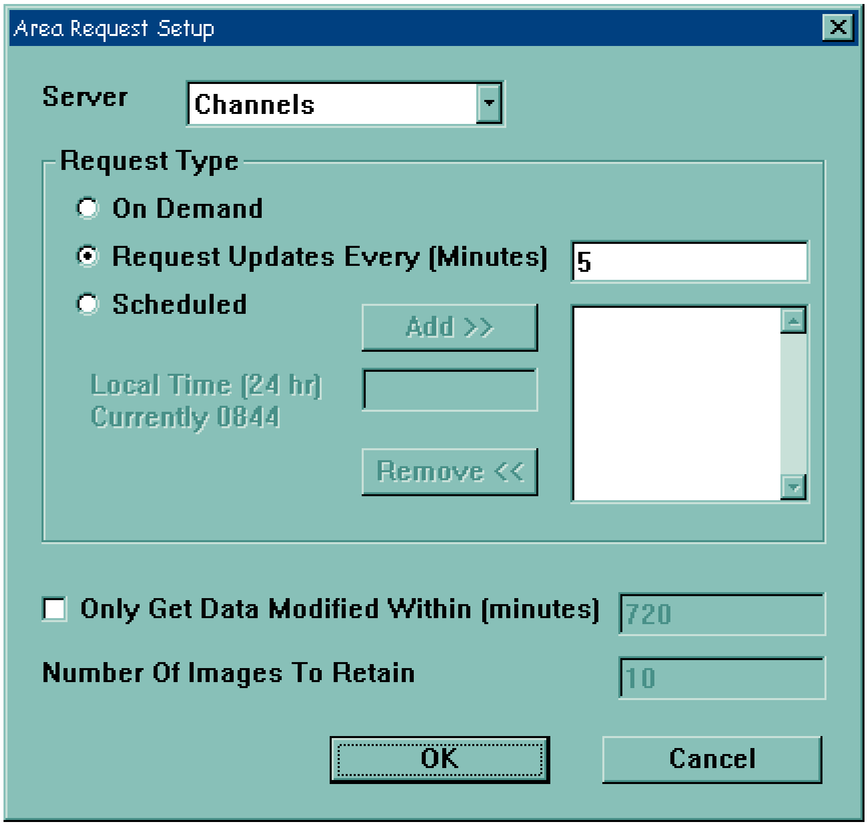


Figure 42. Channels Request Setup Dialog

This is the same as the Area Request Setup dialog used for areas. By default, channels are set to update every 5 minutes. The checkbox for **Only Get Data Modified Within (minutes)** should be unchecked for channels.

The **Select Channels...** option under the **Channels** menu allows you to select channels from the list of published channels. It presents the dialog shown in Figure 43. This dialog lets you subscribe to channels easily. The box on the upper left lists the available Groups of channels. The box on the upper right lists the channels available in the Group that is currently highlighted. The box at the bottom lists the channels to which you are currently subscribed. To add a channel to the Selected box, double-click its name in the Channels box, or highlight the name in the Channels box and click the **< Add** button. To remove an channel from the Selected box, highlight its name and click on the **Remove >** button. To accept the current selections and proceed, click on the **OK** button. The **Cancel** button exits the dialog without changing your channel selections.

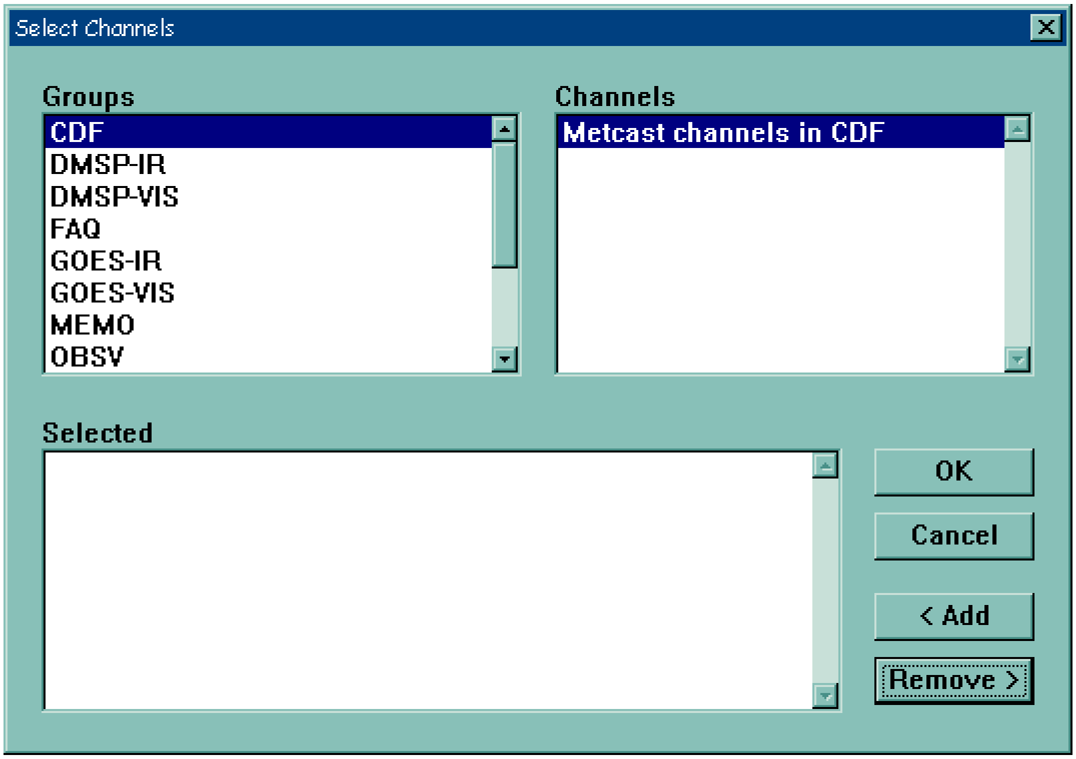


Figure 43. Select Channels Dialog

The **Publish...** option under the **Channels** menu allows you to publish a file from your local computer via an existing channel, which will send it to all subscribers to that channel. When you select this option you will first see the dialog in Figure 44, which allows you to select the file to be published.

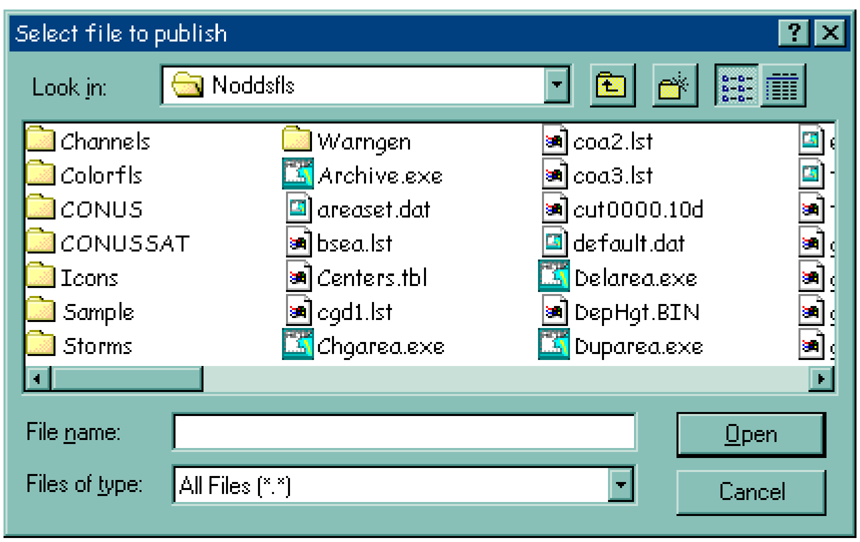


Figure 44. Select File to Publish Dialog

This is a standard Windows file selection dialog that allows you to navigate the file tree to select a file to be published. After selecting a file, you will be presented with the dialog shown in Figure 45, to select the channel over which the file is to be published.

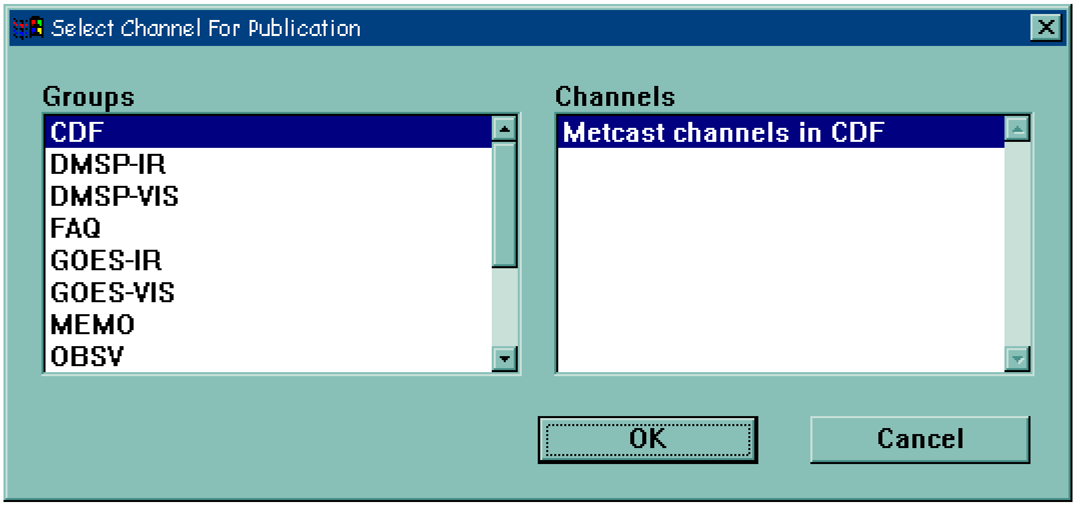


Figure 45. Select Channel for Publication Dialog

This dialog shows you the Groups and Channels as in the other Select Channel dialog. To select a channel, highlight the Group and then highlight the Channel, and click on the **OK** button to publish the file to the selected channel. The **Cancel** button exits without publishing your file.

5.11 METCAST-to-METCAST Data Transfers (Sun Platform Only)

METCAST-to-METCAST transfers are possible provided that the unit on the receiving end of the transfer has a Sun workstation running both METCAST Server and METCAST Client (the HP and Windows NT versions do not have this capability at present).

NOTE: This procedure requires some knowledge of the METCAST server setup on the receiving system and of the structure of the *mailcap* file, and should not be attempted by anyone who is unfamiliar with the system.

The Sun installation package contains a special *mailcap* file called *mailcap_metcastfeed*. The first step in setting up a METCAST-to-METCAST transfer is to rename the existing *mailcap* file on the receiving end of the transfer to, for example, *mailcap.orig*, and then to rename the *mailcap_metcastfeed* file to *mailcap*. The new *mailcap* file must then be edited to change the hardcoded paths to the feed directories to point to the appropriate feed directories for the receiving platform's METCAST server.

From this point on, the operation is the same as running METCAST Client for any other purpose. The only difference is that the files received by the Client, rather than being processed for viewing in JMV, are sent directly to the feed directories for the METCAST Server, which will then pick them up and ingest them into its database.

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6 NOTES

6.1 Glossary of Abbreviations

COE	Common Operating Environment
DII	Defense Information Infrastructure
FNMOC	Fleet Numerical Meteorology and Oceanography Center
GUI	Graphical User Interface
HTTP	Hyper-Text Transfer Protocol
ICAO	International Civil Aviation Organization
IP	Installation Procedures
JMV	Joint METOC Viewer
METOC	Meteorological and Oceanographic
MIME	Multipurpose Internet Mail Extensions
PC	Personal Computer
SPAWAR	Space and Naval Warfare Systems Command
SVD	Software Version Description
TAC	Tactical Advanced Computer
UM	User's Manual
URL	Uniform Resource Locator

6.2 Known Problems and Workarounds

The following known problems are currently being worked on:

1. Downloading observations (particularly Upper Air Reports) for a global area can produce problems with incomplete XML files being returned (giving rise to a "missing MIME boundary" error). The workaround is to request the problem observations for smaller, non-global areas.
2. A request for large numbers of grid files for an area may result in incomplete files being returned (giving rise to a "missing MIME boundary" error or sometimes a crash). The workaround is to duplicate the area with different names, and only request a subset of the required grid set for each of the new areas.
3. When two sessions in the Retriever Monitor share the same area name, server, and data domain, the Past Sessions log can be confused and will only show the past sessions data for the earliest completed session. A workaround is to purge the Past Sessions log before each new write, so that only the latest past session data are displayed. We are still working on a better fix.

6.3 How to Report Problems with METCAST-JMV

1. What to do when the error occurs:

- To save the error window or screen, put the cursor in the error window.
- Press ALT-PrintScreen together. This copies the error window.
- Go to Word or PowerPoint. Paste the image of the error window.
- Save the image as a GIF or JPG file.

2. What to put in the problem report

- Describe what areas and/or lists were active in Metcast
- If an area has a problem, use WinZIP to zip up the /jmvwin/noddsfl/area directory.
- If Dr Watson errors occur, then including the Dr Watson Log file is helpful.
- The Dr Watson Error logs can be found in /Winnt/drwtsn32.log

3. How to report the Version of Metcast Requestor and JMV:

- In Metcast Requestor, click on Help and Show Version to get the 4-digit version number.
- In JMV, click on Help and Show Version to get the 4-digit version number.

4. Send Email with attachments

- Send Email with Problem description, version numbers, the ZIP file, GIF image of error messages and Dr Watson Logs.

7 DOCUMENTATION IMPROVEMENT AND FEEDBACK

Comments and other feedback on this document should be directed to the DII COE Hotline:

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